THE EVOLUTION OF OBSTETRIC MEDICINE;

WITH ILLUSTRATIONS FROM SOME OLD MIDWIFERY BOOKS.

BY

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AT a meeting of the Ulster Medical Society on January 18th, 1912, the honorary librarian, Dr. W. L. Storey, read some most interesting notes on two old volumes which he showed, and which he subsequently very kindly placed in my hands, dealing with obstetric medicine. At the next meeting, February 15th, 1912, I was able to exhibit two additional ancient books on the same subject. Some details about these works may be worth recording—apart from their own individual interest—for the light they throw upon the early history of obstetrics, and its gradual development into a science and an art.

I.—"THE BYRTH OF MANKYNDE."

In the year 1909 there was found in the library of the Ulster Medical Society, in the midst of a number of other old publications, a beautifully preserved copy of the 1545 (second) edition of *The Byrth of Mankynde* (the first edition appeared in 1540) with this title:

The byrth of
Mankynde, other wyse named
the Woomans booke. Newly
set furth, corrected and
augmented. Whose cō
tentes ye maye rede
in the table of the
booke, and most
playnly in the
prologue.
By Thomas Raynold
phisition
Anno M.D. XLV.

On the back of the book, which is bound in mottled calf is "Raynold's Midwife," while on the last page, below "Imprynted at London by Tho. Ray." is written "S. Sarah Simcock. hoar Booke"—the name, perhaps, of some former owner, who may have been a midwife. The initial S has faded, as if whoever wrote the name made this letter, and then started again to write her Christian name. A little beyond the word "Booke" is a blot, which has spread gradually upwards and backwards as if from the spilling of a drop of ink. What is this book, and who is its author (or authors)? In the year 1513 the first printed work on midwifery was published in Worms by Eucharius Rosslin with the title *Der Swangern frawen und Hebammen Rosegarten* ("The Rose-Garden of the Pregnant Woman's Nurse"). It was compiled largely from the teaching of the famous physicians of the Alexandrian school—Soranus and Moschion—which has come down to us through compilations made, along with works of earlier writers, by Orisabius and Aetius, and in the Muscio MSS. (as pointed out by Fairbairn), which, it is known, were for a time in the Heidelberg Library, where Rosslin, who practised at Frankfort-on-the-Maine, may have had access to them. What makes this work of special interest is the fact that its advent synchronized with the discovery of printing, and so, though it appeared first in German, it was subsequently translated into Latin as *De Partu hominis et quae circa ipsum accidunt, Libellus D. Eucharii Rhodionis Medici*, in 1532. It was from this Latin version that it was translated into so many modern languages, such as Dutch, Hungarian, German, Italian, and French. In the year 1540 the first English edition of *The Byrth of Mankynde* appeared, the work having been translated from the Latin version of Rosslin's (or Rhodion's) book, by Richard Jonas, a man who may have been simply a scribe "a certayne studious and dilygent clarke" (referred to in "a prologue to the women readers" preceding the first book of the second and succeeding editions of the work), or he may have been a connexion of Justus Jonas, the German reformer, who was born at Nordhausen, Prussia, 1493, and died at Eisfeld, Saxe Meiningen, 1555, and who was the friend and collaborator of Luther. The second edition of *The Byrth of Mankynde* differs (as shown by Ballantyne) from the first or "Jonas" edition, in that it is the first of what some have called the "Raynalde" editions, and it is also the first that contains the prologue to woman readers—the man midwife had not yet come—the anatomical figures, the greater part of the first book, and the Latin preface with the reference to Aristarchus, the noted Alexandrian grammarian and critic, who flourished about the second century B.C. In a word, this most interesting book is largely Rosslin, with additions by Thomas Raynalde, an English physician, who it appears practised in London and Paris, and who travelled abroad a good deal, for the epistle dedicating another of his books is dated from Venice. This work is *A Compendious Declaration of the excellent Virtuees of a certain lateli invented oile called for the Worthins thereof oile imperial with the manner how the same is to be used for the benefite of mankinde against innumerable diseases written by Thos. Raynalde Doc. of Phisick. Virtute duce, comite fortuna*, Venice, 1551. Of *The Byrth of Mankynde* there have been, from 1540 to 1676, as many as fourteen English editions, a circumstance which indicates what an influence this book excited on midwifery practice in England. It was the first English book printed on the subject of obstetrics, but not the earliest work in our language on midwifery, for Dr. Aveling has shown (*Obstetrical Journal of Great Britain and Ireland*, ii, 73, 1875) that among the Sloane MSS. in the British Museum there is a work by an unknown author of the fifteenth century written and illuminated, "of which," he says, "two hundred and thirty-four pages are devoted to midwifery and diseases of women." "In some instances the text," according to Dr. Aveling, "is a verbatim translation from Regerius." This reference to the Sloane MSS. is of interest to all medical men, and especially to those of North of Ireland birth or extraction, because these wonderful collections have among them letters and notes by most of the doctors of the century preceding Sir Hans Sloane's death, and they thus form the principal source of the medical history of England during a period of six reigns—Charles II, James II, William III, Anne, George I, and George II—and because they were brought together by Sir Hans Sloane, who was born at Killyleagh, co. Down, April 18th, 1660. Sloane was one of the greatest men Ulster has produced.*

How this beautiful copy of the second edition (1545) of *The Byrth of Mankynde* reached the old "Belfast Medical Library" in 1829 is unknown, and at present the only other copies of this edition—four in number—are, so far as is known, in the British Museum; Royal College of Physicians of London; Hunterian Library, University of Glasgow; and in the private collection of Dr. W. S. A. Griffith of London. One of the most curious features of the book consists in the irregularities of pagination (as occurs even in some of Shakespeare's folios), due largely to want of care and shortness of type. It is beautifully printed in black letter, with woodcut capitals. Round the quaint title-page is a woodcut border, and in the book there are the Vesalius anatomical plate and the Rosslin "Byrthe Fygures," with "The Woman's Stoule."

II.—"THE COMPLEAT MIDWIFE," ETC.

This old book, which I owe to the kindness of a friend and former student, Dr. Mandale Byers, who sent it to me from London, where he had picked it up, is a calf-bound octavo volume, printed in London "for Nath. Brook, at the Angel in Corn-hill, 1663." Unfortunately the title-page is wanting, but there is "The Preface by Sundry Practitioners in and about the City of London," etc., which is signed at the end with the initials of six people—R. C., J. D., M. S., T. B., W. C., M. H.—whoever they may be. This preface is of great interest as throwing a light upon some of the contemporary obstetric literature of the day. It is as follows:

Christian Reader,

It is high time, there being already published many Treatises in this kind, for us to discharge our consciences for

* BRITISH MEDICAL JOURNAL, November 18th, 1905. "Nova et Vetera—Sir Hans Sloane," by Professor Byers.

the good of the Nation: we have perused all that have been in this nature in *English*, and find them strangely deficient, so crowded with unnecessary Notions, and dangerous Mistakes, that we thought it fit to give you warning of them, that for the future the unfortunate Practisers may prevent the *almost guilt* of the crying sin of Murder.

It is admirable to us, that our Country should be so much deluded, to build all their practice upon such Authors, that have at all conduced to any considerable advantage in this so necessary and useful Art, as the preserving of Mankind. Alas! how many miserable Volumes have these late times brought forth? Not to disparage any that have deserved, but in so weighty a concernment as this, we must stand upon our integrity. There hath been a reasonable intention in the publishers of some Books, *viz. The Birth of Man*, the most ancient, but very much unfurnished; as also the Books of *Childbirth*, [this is probably the English translation of Guillemeau's treatise on midwifery which was published in 1612, with the title *Childbirth; or, The Happy Deliverie of Women*. Guillemeau was one of Ambroise Paré's ablest pupils], *The expert Midwife* [this is the English version of the *Hebammenbuch* of Jacob Rueff, published in Zurich in 1554] the worst that hath been written in that kind in French; and it's almost a Miracle to us, that Mr. *Culpeper*, A man whom we otherways respect, should descend so low as to borrow his imperfect Treatise from those wretched Volumes, some of which are before mentioned; And we must deal faithfully with you, that, that small piece of his, intituled, *The Directory for Midwifes*, is the most-desperately deficient of them all; except he writ it for necessity, he could certainly have never been so sinful to have exposed it to the light. Now, Christian Reader, to give thee a true information of what we have here done for thy good, we shall not only justify from our own experiences, but fully demonstrate from the writings of the best Practisers, both of the *French*, *Spanish*, and *Italians*, and other nations; and we must clearly confesse, that we are highly obliged to the incomporable labours of that most Famous Woman of the World, *Madam Loug. Bourgeo*, late midwife to the Queen of *France:* the praises that we read of all those that ever heard of her, are not so much a flourish, as truth; for her reasons are solid experiences, and her witnesses have been all of the most eminent persons of *France;* and not only of her, but as we have already exprest, of the most excellent known Men and Women of this Art of other Countries: It's upon this account that we break the barriers and boldly stand the brunt of all Censures.

The chief occasion of this Book is, to make it a great Exemplary and School, where Medicine married to the Midwife's industry, may teach everyone the admirable effects of the Divinity of this Art of Midwifery.

And now knowing, Reader, that the Receipts herein contained, which have ever had happy successes, are not made publick to the world on any other sign, than of the assistance of such persons, whom either the want of fortune, or opportunity desireth such sudden helps, neither can we be without bleeding hearts, if we but consider how many have been lost by the unskilfulnesse of those that attempted this great Work; nor should we have prostrated our reputation and private experiences, but to correct the frequent mistakes of most *Midwives*, who, resting too bold upon the common way of delivering women, neglect all the wholesome and profitable Rules of Art, which might concern them in the occult diseases of Women, as also of the anatomical parts of the Body. Thus having discharged our consciences, we have no more to write, but refer you to the Book itself, desiring a blessing of God on these our faithfull endeavours. We are the hearty Well-wishers of your good.

The book opens with

The
Compleat Midwife
Her
Practice enlarged.

The serious and most choice secrets of Madam Louyse Bourgioes, Midwife to the Queen of France; which she left to her daughter as a Guide for her: And also for the Practice of all discreet Midwives, to prevent all dangerous Mistakes in a work of so high Concernment; necessary to be known by all Child-bearing Women, and others.

This "Compleat Midwife" occupies 276 pages of the book, the first 242 being contributed by Madam Louyse Bourgioes, with steel plates, one giving "The natural forme of a child lying in ye womb," the other showing figures of the special organs in both sexes, which are fully described in the text, in accordance with the anatomical and physiological knowledge of those days. Hints are suggested for the proper management of pregnancy and for the minor complications of labour; while in chapter xxviii, "Of cases of extremity, and first, what is to be done to a woman, who in her travail is accompanied with a flux of blood, and with convulsions," she shows how well she must have been taught by Ambroise Paré. The cross-bed position is recommended, podalic version is fully described, and when the child is dead in the womb and it is necessary that it should be delivered, the method of using the hook is demonstrated. The use of the *speculum matricis* or apertory, is advised for dilating the womb. In short, all the methods of delivery known at that period are fully explained. In the selection of a nurse for a baby she gives excellent advice, as well as when it is necessary to provide a foster-mother in the case of "those women that either cannot or will not nurse." Attention is drawn to diseases of the womb and of the breast, and one of the causes assigned by her for the "Green-Sickness" (chlorosis) is obstruction (? constipation) of the bowels; "hence arises an ill concoction in the bowels, and the humours are carried into the habit of the body, or become habitual thereunto." Purgation is one of the methods of treatment recommended, so that Madam Bourgioes anticipated Sir Andrew Clark's theory as to the causation and treatment of chlorosis. Finally, she draws attention to the bringing up of children, as well as to their diseases. At page 243 of this book we have

A full supply of such most usefull and admirable secrets, which Mr. Nicolas Culpepper in his brief Treatise, and other English Writers, in the Art of Midwifery, have hitherto wilfully passed by, kept close to themselves, and wholly omitted; now at last made publick for the General good: By T. Chamberlain M.P.

And this runs on for another thirty-three pages. Then follows:

Rare Secrets Brought to Light, Which for many years were Locked up in the Brest of that most famous and Learned Physitian Sir *Theodore Mayern*, Physitian to His Late Majesty, King Charles the First, of ever blessed memory. In which are contained the sufficient Testimonies of the Warranted, and Happy Successes of his Mature judgment in his general Practice, on the greatest Ladies of the Court and Country, in the Faculty of so publick a Benefit, as of the excellent Skill of Midwifery.

In a preface to these "Rare Secrets" the writer, "as being a near relation" of Mayern (his name is not given), tells "the Understanding Reader" that, hearing of a second edition that was "to come forth" of the works of Madam Lowise Bourgeoise, he "thought it most convenient to annex thereunto this collection more considerable for its quality, than quantity."

An account of the principal writers that figure in this book may be of interest:

1. Louise Bourgioes (Bourgeois, or Boursier), who was born in 1563, was a Paris midwife held in great repute towards the end of the sixteenth and the beginning of the seventeenth century. Her husband—an army surgeon named Martin Boursier—and she were educated under Ambroise Paré, and from them both she received instruction in the more difficult parts of the art of midwifery. She was one of the first graduates of the famous school for midwives established at the Hôtel-Dieu in Paris. Her reputation became so high that she was appointed *sage femme jurée* to the Queen of France, whom she attended, as well as the great ladies of her Court. She was the writer of several works, such as: (*a*) *Various Observations on Sterility, Fertility, and Diseases of Women.* (*b*) *The Collection of Secrets.* (*c*) *The True Nature of Births of Men and Women of France.* (*d*) *Directory to my Daughter, The Compleat Midwife, her practice enlarged.* Her fees for an obstetric attendance varied according to the sex of the royal child; 500 crowns if it was a boy, 300 if a girl. What she charged if the child was stillborn or in case of twins is not related. In her old age she enjoyed a pension of 300 crowns per annum. In Dr. J. Munro Kerr's *Operative Midwifery*, p. 139, 2nd edition, 1911, it is stated, on the authority of Fashbender, that she recommended reposition of the prolapsed cord, and the maintaining of it in position by means of a tampon. This would be about 1609. In 1627 she lost popularity owing to the death—from septicaemia—of a royal princess, the Duchesse d'Orleans, whom she had attended.

2. It is difficult to say exactly who "T. Chamberlain, M.P.," really was. He may have been a miscellaneous writer who translated *A Treatise of Health*, by Castor Dorante.

3. Nicholas Culpepper (1614–1654) was a physician (in the title-pages of some of his books he adds M.D. to his name, though whether or where he graduated in medicine seems to be unknown) who practised at Spitalfields, and who thoroughly understood the arts of the quack advertiser, though there can be no doubt he was a man of considerable attainments and of great powers of work. His *Herbal* was a famous family medicine book for past

generations. In addition to being a doctor, he was a soldier during the Civil War—being probably a Parliamentarian—and was wounded in one of the battles. His *Directory for Midwives* is chiefly remarkable for demonstrating what a contemptible position obstetrics occupied in England, especially as compared with the Continent, in the seventeenth century. Smellie says of him, in his *Treatise:* "His performances were for many years in great vogue with the Midwives, and are still read by the lower sort, whose heads are weak enough to admit such ridiculous notions."

4. Sir Theodore Mayern—or, to give him his full title, Sir Theodore Turquet de Mayern (1573–1655), Baron Aulbone of France—was the son of a French Protestant of Piedmontese origin, while his mother was a daughter of Le Maçon, Treasurer of War in the reigns of Francis I and Henry II of France. He was born at Mayenne, near Geneva (hence his name), in 1573. He studied at Heidelberg and afterwards at Montpellier, where he graduated M.D. Starting practice in Paris, he lectured on anatomy to the surgeons, and on pharmacy to the apothecaries. His liking for chemical remedies attracted the attention of Dr. Ribbitz de la Rivière, at that time first physician to Henry IV, and he was himself appointed one of that King's physicians. His defence of chemical remedies aroused the ire of the medical profession, and although King Henry liked him, his Queen—Marie de Medici—was unfriendly and insisted on Turquet's dismissal, and the Medical Faculty of Paris issued a decree forbidding all physicians who acknowledged their authority to consult with him, and exhorted practitioners of all nations to avoid him, and to persevere in the doctrines of Hippocrates and Galen. In 1606 he had fortunately attended successfully an English peer who was in Paris, and who, to show his gratitude, presented him to the King of England, who made him physician to the Queen, and in the same year he was incorporated M.D. of Oxford. In 1611 he came to reside in England, and such was his great reputation that he was appointed physician to James I, a position which he continued to hold under Charles I and Charles II. He had a large and fashionable practice and was trusted implicitly by Kings James and Charles I, and in 1616 he was made a Fellow of the Royal College of Physicians, and in 1624 a knight. Sir Theodore Mayern was a great physician—with a special liking for pharmacy—and a versatile author. He wrote in both English and French, and kept careful notes of his cases, which now occupy twenty-three volumes of the Sloane collection in the British Museum. It is to him we are indebted for an interesting account of the illness and death of Isaac Casaubon, the famous classical scholar and Protestant theologian of French (Gascon) origin (1559–1614), who died in London, and who was a prebendary of Canterbury and pensioner of King James, which Mayern wrote in 1614. The Society of Apothecaries owed to Mayerne their incorporation, and King James I commissioned him to write a dedication to him of the first *Pharmacopoeia* published by the Royal College of Physicians. He invented a famous "Powder de Gotteta" for epilepsy, a gout powder, an ointment for hypochondria, and he discovered the purple colour necessary for carnation tints in enamel painting. He made experiments in pigments which, it is said, rendered him popular with his lady patients, while he used as a scribbling-book, that could be washed, a sort of tablet with a covering of parchment treated with a resinous compound, the prototype of the modern doctor's slate. It is to him, it is said, we owe the introduction of calomel and the use of "black wash." He also practised midwifery, as these "Rare Secrets" show, but more as a physician than as a surgeon, for there is little if any mention of the difficulties of labour in these "Rare Secrets," which are full of recipes for "emplasters," ointments, powders, lotions, injections, and other pharmaceutical remedies, for the minor complications of obstetric practice. In England, where he died in 1655, he used the the name Mayern or Mayerne. Some authorities have suggested that the Dr. Caius in Shakespeare's *Merry Wives of Windsor* is a burlesque on Sir Theodore Mayern, but until some evidence be forthcoming we must hesitate to admit this interpretation. The French doctor type is very common in Elizabethan literature, and hence Ambroise Paré has also been suggested as the original of Dr. Caius. The painting of Sir Theodore Mayern, done by Rubens, after various vicissitudes, was in 1848 bought by the Royal College of Physicians.

III.—"Art of Midwifery."

The third old book, which formerly belonged to the "Belfast Medical Library," is a beautifully calf-bound octavo volume, on the back of which is "Art of Midwifery," and with the following title-page:

The Art of Midwifery Improv'd.

Fully and Plainly laying down Whatever Instructions are requisite to make a Compleat Midwife. And the many Errors in all the Books hitherto written upon this subject clearly refuted. Illustrated with 38 Cuts curiously engraven on Copper Plates, representing in their due Proportion the several positions of a *Foetus*. Also A New Method, Demonstrating, *How infants ill situated in the Womb whether obliquely, or in a strait Posture*, may, *by the Hand only* without the Use of any *Instrument*, be turned into their right Position, without hazarding the Life either of *Mother or Child*. Written in Latin by Henry à Daventer. Made English. To which is added, A Preface giving some Account of this work by an Eminent Physician. London: Printed for E. Curll, at the Dial and Bible, F. Pemberton, at the Buck and Sun, both against St. Dunstans-Church in Fleet-Street, and W. Taylor, at the Ship in Pater-Noster-Row. 1716. Pr. 6s.

Henry à Daventer (or Heinrich van Deventer) was born at Daventer, the capital of Over-Issel, in Holland, and took his name from his native town, as was the custom of the Van-Low. Originally a goldsmith, he afterwards turned to the healing art, and at the end of the seventeenth and beginning of the eighteenth century he had a great reputation as a doctor and accoucheur. He practised for a long time with his wife (a Vroedvrow as he was a Vroedmeester) at Groiningen, and in several other parts of Holland, and was called to Denmark by Charles V, who recompensed him well. He was a thorough anatomist and surgeon, and though he devoted great attention to orthopaedics (inventing instruments to correct deformities) his reputation is based specially on his skill as an obstetrician. He wrote a treatise, *Novum lumen obstetricantium quo ostenditur quâ ratione infantes in utero tàm obliquo quam recto pravè siti extrahantur*, Lyden, 1701. In this volume inconveniencies arising from obliquity of the uterus are shown, as well as the means how best to remove them. He also wrote *Ulterius examen partuum difficilium lapis lydius obstetricum et de necessitate inspiciendi cadavera*, 1725. His chief work was translated into English as *The Art of Midwifery Improv'd*. He also wrote *Operationum chirurgicarum novum Lumen exhibitum Obstetricantibus pars secunda*, 1773, which contains all his teaching on midwifery. Numerous editions of this work have appeared in German, Dutch, French, and in English. He wrote a work on rickets, which appeared posthumously. This *Art of Midwifery Improv'd*, by Daventer, is of the utmost importance to any one interested in the history of obstetrics. In the first place, it is addressed both to midwives as well as to "surgeons who practise midwifery," that is, to the men midwives; and in the preface, written, as we are told, by an eminent physician, there is this curious paragraph:

> Midwifery has, in all ages, been the study of the most learned Physicians, tho' the Practice of it has best succeeded in this last Age among the *French*: for their Ladies, laying aside all unreasonable Modesty, have provided for their own and children's Safety by admitting of Assistance from both Sexes; and the Men being more Skilful in Anatomy, and being disposed to find out new Help in unforeseen cases, have brought it to greater Perfection than it could possibly attain by other Means in other Countries.

In this passage references are made, doubtless, to Ambroise Paré, Guillemeau, and Mauriceau, who in 1668 published a work on midwifery, which was translated into English by Hugh Chamberlain, who, in a preface, wrote those memorable words forecasting the use of the forceps:

> My Father, Brothers, and my Self (tho' none else in Europe as I know) have by God's Blessing and our Industry attained to and long practised a way to deliver women in this case without any Prejudice to them or their Infants,

as well as to the fact that in 1663 Louis XIV was so pleased with the way Jules Clement, a distinguished Paris surgeon, had attended at childbirth one of his favourite mistresses (Madam de la Vallière), whom she had asked to be with her to preserve secrecy, that not only did he attend the same lady on similar subsequent occasions, but he rose rapidly as a Court favourite; and the result was that it became fashionable to have surgeons in full attendance

(and not summoned simply if difficulties arose) at confinements; and a new word, "accoucheur," was coined for this type of medical practitioner. But this book of Daventer was really the first to present anything approaching a scientific description of the pelvis (two admirable figures are given, one being a vertical section), and to indicate any advance in the direction of the mechanism of labour. Daventer was one of the first to study deformation of the pelvis.

If Soranus be regarded as the "Father of ancient obstetrics," as Hippocrates was of medicine, then Daventer may be styled the "Father of Modern Midwifery," just as Sydenham is of modern medicine.

IV.—"Burton's Letter to Smellie."

The last book I have to speak of is a plain calf-bound octavo volume, which I owe to Dr. W. L. Storey, as it is in the library of the Ulster Medical Society. On the back of it is "Burton's Letter to Smellie," and on the title-page:

A Letter to William Smellie, M.D. Containing Critical and Practical Remarks upon his Treatise on the Theory and Practice of Midwifery. By John Burton, M.D. Wherein the various Gross Mistakes and dangerous Methods of Practice Mentioned and recommended by that Writer, Are fully demonstrated and generally corrected. Likewise the several Advantages or Dangers, to both Mother and Child, attending the Turning the last in the Womb to extract by the feet, or that accrue from the Use of each particular kind of Instrument, employ'd in delivering Women, are shown in a more ample Manner than heretofore. Being as an Appendix to both the above-mentioned authors *Treatises on Midwifery*; absolutely necessary to be perused by all who have read the former's Book, or attended his Lectures with a View to Practice. To which is affixed a Copper-Plate, representing several Sorts of Instruments used by the Ancients, with the Fillet as improved by the Author thereof. London: Printed for W. Owen at Homer's Head, Temple-Bar, MDCCLIII.

It was only natural that a great personality like Smellie (1697–1763) should excite the envy of some of his contemporaries, because of the popular prejudice that existed at his time against men-midwives and the forceps; hence a man who, to quote one of his contemporary writers, "was an enthusiast in his profession—man-midwifery was the idol of his heart; he believed in his forceps as firmly as he did in his Bible"—was a ready object for attack. The most personal of his slanderers was the Haymarket midwife—the celebrated Mrs. Elizabeth Nihell—who in her book, *A Treatise on the Art of Midwifery*, speaks, in referring to him, of the "delicate fist of a great horse-godmother of a he-midwife," while a Dr. Wm. Douglas—styled by himself "Physician to His Royal Highness the Prince of Wales' Household and man-midwife," sneers at his "monstrous hands fit only to hold horses by the nose whilst they are shod by the farrier, or stretch boots in Cranbourne Alley." It must, however, be conceded that in this very heated and personal controversy Smellie was not without support, for in his "Reflections upon Slow and Painful Labours," Giles Watts, in censuring Burton for his "Letter to Smellie," charges him with "trifling cavellings, wilful misrepresentations, scandalous plagiarism, unfair argumentation, and abusive language"; and writes that he is himself "ready, if called upon, to prove the truth of the above assertions." John Burton (1697–1771) wrote the "Letter to Smellie" mainly in reply to an early critique on Smellie's "Treatise on the Theory and Practice of Midwifery," which appeared in the sixty-first article of the *Monthly Review* for December, 1751, in which the writer says, "after your long Practice in the Country, and ten whole years in London—after reading 280 courses of Midwifery, to perhaps 1,000 people male and female—after thousands of various deliveries; who can doubt, I say, after these considerations, that this Treatise on the Theory and Practice of Midwifery, together with the Prints mentioned in your Advertisement, and the Volume of cases hereafter to be published, will not compose one of the most complete Systems in the world?" In his remarks in this "Letter," upon Dr. Smellie's book, Burton proceeds to consider "that author in several Lights, as an historical Writer, as an Anatomist, as a Theorist, and a Lecturer or Practitioner," evidently much to his own satisfaction.

John Burton, a native of Ripon, graduated M.B. of Cambridge in 1733, and M.D. of Rheims, and attained to a high position as an antiquary (he wrote in 1758 "Monasticon Eboracense and Ecclesiastical History of Yorkshire") and as a medical practitioner at York. He devoted special attention to obstetrics, and published in 1751 and 1753 an "Essay on Midwifery." Burton's silly attack upon Smellie, who is thus estimated by Dr. Alfred McClintock, an ex-Master of the Dublin (Rotunda) Lying-in Hospital (whom I remember presiding so ably at the 1881 International Medical Congress, London, in the Section of Obstetric Medicine and Gynaecology), in his memoir of Smellie, published in the reprint of that great man's Treatise in 1876 by the New Sydenham Society:

As a teacher, author, and practitioner, there is no British obstetrician—certainly none of the Eighteenth Century—who deserves so high a place in our estimation as William Smellie. Nay more, under whichever of these several aspects we may regard him, he scarce has an equal, whilst of all the men, British and foreign, who have most largely contributed to the advance of sound obstetric knowledge, Smellie may justly stand in the foremost rank. No accoucheur, ancient or modern, unfolded so many of the principles of true obstetric science, and in his practice so consistently acted up to them:—

would have never been remembered had it not been that perhaps his "Letter" may have come into the hands of Laurence Sterne (1713–68) just at the time that the fierce controversy was raging between the woman- and the man-midwives. It so happened that at this particular juncture Sterne was enjoying the living of Sutton, near York, where he tells us he was spending his time "painting, fiddling, and shooting," while Burton was a local physician at York, which Sterne often visited, as he was a prebendary of the Cathedral. As a result, the greatest of the impressionists in English style seized hold of the situation and of a local person—whose political opinions (report said) had rendered him obnoxious to Sterne—to set both off, and as a result we have in *The Life and Opinions of Tristram Shandy, Gent.*, published in 1760, one of the clearest pictures of the state of obstetrics of that time depicted to us in a series of as amusing and satirical situations as have ever appeared in the literature of any country; and in which the obstetrical, religious, and scientific weaknesses of the eighteenth century are mercilessly exposed. Dr. Burton is hit off as Dr. Slop:

Imagine to yourself a little squat uncourtly figure of a Doctor Slop, of about four feet and a half perpendicular height, with a breadth of back and a sesquipedality of belly which might have done honour to a sergeant in the Horse Guards. . . . Imagine such a one—for such, I say, were the outlines of Dr. Slop's figure—coming slowly along, foot by foot, waddling through the dirt, upon the vertebrae of a little diminutive pony.

We are told this obstetrician, who had "devised many curious improvements for the quicker extraction of the fetus in cross births," had lost his front teeth through the unfortunate slipping of his forceps during a previous delivery. It is said in Allport's paper (see bibliography):

Dr. Burton, woefully lacking in a sense of humor—solemnly disclaimed all resemblance to the caricature Sterne had drawn of him. Then another doctor of the neighbourhood, thinking Sterne might have meant him, called up the parson one morning and entered a vigorous protest against the indecent liberties taken with him. After vain attempts to convince the doctor of his error, Sterne lost patience, and remarked sharply: "Sir, I have not hurt you; but take care; I am not born yet; but heaven knows what I may do in the next two volumes."

We forgive Burton for his absurd attack on Dr. Smellie, and think only of him as "Dr. Slop," that remarkable literary creation which will live for all time along with Falstaff, Micawber, Uncle Toby, Corporal Trim, and Widow Wadman.

It is rather an interesting fact—from a literary point of view—that Smellie was brought into direct contact with Smollett (1721–1771), and had the benefit of that great writer's literary adroitness in the revision of his *Treatise on Midwifery*, published about 1751–2, for in Dr. John Glaister's classical work, *Dr. William Smellie and his Contemporaries* (Glasgow, 1894), a facsimile of a letter, dated Chelsea, March 1st, 1754, is given from Smollett to Dr. John Moore (who, as well as Denman, was a pupil of Smellie) showing that he had revised the contents of the second volume of Smellie's work and probably the others. Smollett, who was himself a medical man, was an intimate friend of Smellie and William Hunter. It was Smollett who communicated Case No. II in vol. ii of the *Midwifery*.

The Development of Obstetrics.

The old works on midwifery which I have mentioned throw considerable light upon the history of the develop-

ment of obstetrics, which has been one of gradual progress from the earliest times until the present day; but, as is the case in the sister branches of medicine and surgery, certain landmarks stand out clear and prominent. The first of these is that remarkable book, *The Byrth of Mankynde*, which made its original appearance in 1513 and was published in its first English garb in 1540. Intrinsically it is of really no value; but as it was the first printed work on midwifery, and as it was translated into so many different languages, it served to draw special attention to the subject, and it occupies a distinct place between empirical or natural and scientific obstetrics. It was the "woman's booke," and was the popular work on midwifery in England for close on a hundred years, and it and many of the works which followed on the same subject, until Smellie's great treatise on the science and art of midwifery appeared, were those used when the uneducated women-midwives were at the height of their fame.

A new epoch in midwifery began in 1550, dividing the empiricism of the ancients from the commencement of modern scientific obstetrics, when Ambroise Paré (1509–1590), the father of French surgery, perfected podalic version. No doubt this great discovery had been foreshadowed, but Paré and his pupil Guillemeau (whose *L'Heureux Accouchment* appeared about 1598) demonstrated how feasible this operation was and how successfully it might be done. It has been well said that Paré accomplished for the child by this new method of delivery what Semmelweis did for the mother almost three centuries later, in showing not only how puerperal infection arose but how it could be obviated. But Paré did still more in advancing obstetric medicine, for, by the perfecting of this method of delivery, he laid the foundation for the existence of Midwifery as an independent art apart from Surgery. The one great mistake Paré made was his hostility to Caesarean section, and this was specially unfortunate at a time when such progress was being made in obstetrics in his native country, France, and when, in contrast, the state of this subject was in England deplorably backward, and continued so for the greater part of the seventeenth century.

The next landmark in the history of obstetrics was the discovery of the forceps, which was invented towards the end of the sixteenth or the beginning of the seventeenth century by a member of the celebrated French Huguenot family—Chamberlen—who came to England. Two other names are also associated with the early history of the forceps—Palfyn and Grégoire. In 1723 Palfyn, a Ghent doctor, showed before the Paris Academy of Medicine a forceps which he called "mains de fer," but, owing to its faulty make, it was never much used. It was made by doubling the "crochet en cillier" of Paré, and the two halves did not articulate. In the early part of the eighteenth century two doctors called Grégoire, father and son—about whom it is hard to get any personal information—practised midwifery in Paris. A pupil of the younger Grégoire—Boehmer, when Professor of Midwifery in Halle—published in 1746 an account of a forceps used by these Grégoires, and this was the first forceps known in Germany. The members of the Chamberlen family, to their infinite disgrace, preserved the secret of the forceps for four generations. The head of the family, who came to England from France in 1569, was called William, and among his children he had two sons who became prominent physicians in London, and each of them, curiously, was surnamed Peter. The younger Peter had a son, also called Peter (or Doctor Peter, as he was styled), a man of great talents, who had what would now be called a fashionable practice in London. This Peter had a son called Hugh (1630–1700)—great grandson of the original William Chamberlen—also a doctor; but, being of extravagant habits which required him to raise some money at times, he decided to sell the hereditary family secret. Accordingly, he proceeded to Paris and offered to part with the secret to Mauriceau for about £2,000. Before deciding to purchase, Mauriceau naturally wished to have some practical experience of the value of this method of delivery, and, as there happened to be at the Hôtel-Dieu a deformed dwarf in labour, he asked Chamberlen to deliver her; but he was unable to do so, and thus ended, so far as Paris was concerned, the negotiation for the sale of the secret (the matter is mentioned in Mauriceau's account of his twenty-sixth case). Hugh Chamberlen—not in the least daunted—on his return to England, translated the first volume of Mauriceau's work on midwivery into English in 1672. On the title-page we read: *Written in French by Francis Mauriceau: Translated and Enlarged with some Marginal Notes by Hugh Chamberlen, M.D., and Physician in Ordinary to His Majesty*, and, in the preface, he tells us that the practice of

> fastening hooks in the head of a child in difficult labour, when it came right, has very much caused the report that when a man comes, one or both must necessarily die, and makes many for that reason forbear sending until either be dead or dying.

He adds:

> My Father, Brothers, and myself ('tho none else in Europe as I know) have by God's Blessing and our Industry attained to and long practised a way to deliver Women in this case without any Prejudice to them or their Infants.

Hugh Chamberlen afterwards went to Holland and succeeded in selling the secret either to the Amsterdam College of Physicians or to Roonhuysen, and in turn it was sold—of course under pledge of secrecy—according to some authorities, by this medico-pharmaceutical college to each person aspiring to a medical degree. Finally, two public-spirited Dutchmen (Vischer and Van der Poll) bought the secret and made it public, when it was found to be the single blade of a pair of forceps! Whether Chamberlen humbugged the College or the College swindled their students is not known.

The first record pointing to the secret being in the Chamberlen family occurs in 1616, when the English College of Physicians summoned before them the younger Peter (son of Wm. Chamberlen), and accused him of boasting that "he and his brother and none others excelled in these subjects" (difficult labours). For over a century it was thought that the distinction of inventing the forceps belonged to Dr. Peter Chamberlen (1601–1683), a grandson of William Chamberlen, who died at Woodham, Mortimer Hall, Essex, in 1683. Long afterwards, in 1813, the housekeeper of a rich brewer who had come into possession of this mansion found in an old chest in the garret some letters and four pairs of forceps in different stages of development (when I was appointed Professor I found a model of one of these forceps in the Belfast College collection), and Dr. Aveling in his classic work, *The Chamberlens and the Midwifery Forceps* (London, 1882), showed that these instruments were probably invented and used respectively by the three Peters, and that, most likely, the earliest was devised by the elder Peter, son of the original William, a view that was also held by the late Professor Budin of Paris and Professor Sänger of Leipzig. The forceps were used generally in England during the life of Hugh Chamberlen. A Mr. Drinkwater of Brentford, who died in 1728, is believed to have been one of the first accoucheurs to use the forceps after the Chamberlens; Dr. Edward Hody, in 1734, published a record of *Cases in Midwifery*, written by Mr. William Giffard (who died in 1731), the dates ranging from 1724 to 1731, several of which were delivered by the forceps, and in his *Treatise on the Improvement of Midwifery*, published in 1733, Edmund Chapman, who practised midwifery several years in the country before he settled in London, speaks of the use of the forceps "as now well-known to all the principal men of the profession both in town and country." The original or short forceps continued to be used until, almost simultaneously, Levret and Smellie (1747 to 1751) added the pelvic curve, and it was still further improved in 1877, when Tarnier invented the axis-traction forceps, which has since again been simplified as Milne-Murray's or Neville's forceps. I have dwelt rather fully on the forceps, because its discovery may be regarded as one of the most important epochs in the history of obstetrics; to quote the late Dr. M'Clintock, it

> has done more to abridge human suffering and to save human life, than any other instrument in the whole range of surgical appliances. Nay more, the acquisition of this efficacious resource contributed most influentially to open up a new era in midwifery by rescuing it from the hands of ignorant female practitioners.

But, in addition, the discovery of the forceps gave a great impulse to the development of the obstetric art, and it led not only to the establishment of chairs and lying-in hospitals for the obstetric instruction of students, to a better knowledge of the pelvis, to a clearer under-

standing of the relations of anatomy and physiology to pregnancy and labour, but also to a closer study of Nature's methods.

In the nineteenth century two of the greatest of all obstetric landmarks appear, each associated with one year—1847. It was then that Sir James Simpson showed how advantageous anaethetics were in delivery, his application of chloroform to labour at once revolutionizing operative midwifery; while at the same time Semmelweis (1818–1865), assistant to the Vienna Maternity Hospital, not only discovered the infectious nature of child-bed fever, but by the introduction of antiseptic precautions demonstrated that this hitherto most fatal condition could be prevented, and in this way he anticipated Lister's work on antiseptic surgery, the first public account of which was given in 1867.

Since these great discoveries the history of obstetrics has been one of steady progress, the ideal aimed at now in obstetric practice being not merely a living mother and a living child, but rather a living healthy mother and a living healthy child. Bacteriology has thrown a new light upon puerperal infection, and our antiseptic and aseptic methods have become more scientific and more simple, and they have been greatly helped by the perfection of abdominal palpation and by the wearing of gloves. We try now not only to get rid of mortality but to reduce even morbidity. The advance in abdominal surgery—due so largely to gynaecologists—has helped enormously our management of extrauterine pregnancy, and also the perfection and safety of Caesarean section, and pubiotomy. One of the special aims of modern midwifery is to get rid of craniotomy, and this is being accomplished by placing the treatment of contracted pelves on a more scientific basis by pelvimetry, by estimating the relative size and consistency of the fetal head and its relation to the maternal pelvis, by skilfully selecting the method of operative delivery which will give mother and child the greatest safety, and by carefully examining women before labour. It is interesting to note in the gradual evolution of midwifery how at first women were attended by midwives alone, and that when, with the advance of surgery, men were called in—the surgical period of obstetrics—it was simply to do some operation; hence the term man-midwife arose, and this state of affairs lasted even well on to 1800, from the time Paré perfected podalic version in 1550.

It was in 1663 that it became fashionable first to employ surgeons to take full charge in midwifery cases, and the term "accoucheur" then arose in France to describe this man-midwife-surgeon. The discovery of the forceps and the necessary surgical training required for its use did more probably than anything else to rescue the practice of midwifery out of the hands of untrained and ignorant women. No one did more in this direction than Smellie, but this change in public opinion and custom—from calling men in simply when some operation had to be done, until they were entrusted with the full charge of the cases, and had in this way an opportunity of studying Nature's methods—was a slow and gradual one, and was not accomplished without one of the fiercest discussions that ever took place in the healing art, and which gave Sterne his chance in *Tristram Shandy*. The free discussion of this question had, however, this good effect: it educated the public as to the importance of providing lying-in hospitals, and of the necessity for more careful instruction of both men and nurses in midwifery. From 1800 onwards obstetrics became a specialized subject, and was completely emancipated from surgery. It is interesting to note in the history of obstetric medicine that while at first women were attended almost entirely by members of their own sex, now again, after centuries, this custom is again occurring in many instances, but it is now by thoroughly qualified and scientifically educated female practitioners of medicine.

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WERTHEIM'S OPERATION FOR CANCER OF THE CERVIX UTERI.*

BY

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THIS subject has attracted a great deal of attention during the last few years. There are surgeons abroad who have performed the operation associated with the name of Wertheim in many hundreds of cases. In this country Comyns Berkeley in 1909 applied "to every recognized gynaecologist of the United Kingdom," and obtained records of 313 radical abdominal operations for cancer of the cervix uteri, of which only 243 were stated to have been performed by Wertheim's method; these were distributed amongst twenty-four operators, giving an average of about 10 each. Many more operations of this kind have been undertaken in the last two years, but opinions regarding the position and usefulness of the method are still in the making.

Until recently cancer of the cervix uteri was treated by vaginal hysterectomy, and I think the general experience—certainly my own—was that the results as to recovery from the operation were good, but the remote results were bad, recurrence being the rule, although there was a comparatively small proportion of cases in which a complete and apparently permanent cure was effected. These ultimately successful cases were all treated when the disease was in its first beginnings, or at least strictly localized, and an early diagnosis with prompt treatment seemed to be of paramount importance.

The abdominal operation is designed to apply to diseases of the uterus the well-known rule that cancer wherever found should be removed, if at all, with as wide a margin of healthy tissue as possible, and that the lymphatics coming from the diseased part should also be excised.

It is the custom with many surgeons in operating for fibromyoma of the uterus to take away the cervix also if they remove the corpus uteri, and in doing this all the necessary incisions are made close to the womb. In the operation for cancer of the cervix the surgeon works as far away from the uterus as he can. He begins by opening the broad ligament close to the lateral wall of the pelvis and securing the ovarian plexus of vessels. The peritoneum is divided behind the bladder and low down behind the vagina from side to side. The bladder is pushed off the cervix. The surgeon then seeks for and defines the ureter, and removes all the tissue down to it. Tracing it forward

* A paper read before the Hastings Division of the British Medical Association.

he finds the uterine artery, accompanied by its veins, coming up from the anterior division of the internal iliac, crossing over the ureter, and again descending to reach the cervix. A ligature is passed along the side of the ureter under the vessels, which are tied and divided as far out as possible, and the ureter is traced forward to the bladder. When this has been done on both sides the uterus is held only by the vagina. There is some very vascular tissue attached to the latter within and adjacent to the utero-sacral folds of peritoneum. This connective tissue should be clamped, tied, and divided deep down on each side, and then the vagina may be separated by digital dissection as low in the pelvis as is thought necessary, down even to the pelvic floor, to get well beyond the disease.

The next step is very important. It was suggested by Wertheim, and this is why his name is attached to the operation. He designed a pair of strong clamps with a special curve to crush the vagina. One is placed on each side so that they overlap in the middle line, and so low down as to enclose the diseased cervix in a capsule of vaginal wall. The vagina is then cut across below the clamps, and the uterus is lifted out of the pelvis with the clamps still enclosing the cervical surface within the top of the vagina. There is usually some bleeding from the divided vaginal wall, but the only difficulty in arresting it is from the depth of the bleeding points in the pelvis. Of course, great care is taken to be sure that the ureters and bladder are not nipped by the forceps, nor cut by the knife or scissors.

One of the most important details of the operation which I think is not always sufficiently insisted upon is the cleaning of the parts after applying the clamps. However carefully the vagina is treated before the operation, and even if it is filled by an aseptic plug, the necessary manipulations in the early part of the procedure tend to force the uterine and cervical contents downwards, and these may lie below the line at which the clamps are applied, or may even be drawn down in removing a plug. These discharges are always septic, and as the whole object of putting on the clamps is to prevent the access of septic matter and cancer cells to the newly-cut tissues and to the peritoneum, it is of great importance to cause an assistant to swab out the vagina after the clamps are applied and before the parts are cut away.

Another point of considerable value is to avoid seizing the uterus with any instrument that will pierce or tear its walls, as septic and malignant matter may be forced through the punctures. Vulsella forceps are frequently used to drag up the uterus, and they are figured in use in one of the most recent descriptions of this operation, but a strong piece of silk passed through the broad ligaments close to the body and tied round it forms a much better tractor.

The lymphatics from the uterus lie in the connective tissue between the layers of the broad ligament and pass to the glands at the sides of the pelvis, particularly those along the iliac vessels, and so on to the abdominal glands. A wide margin of this connective tissue should be removed, and, of course, if glands are enlarged they must be taken away with the tissues around them and the tissues between them and the uterus. Enlarged glands are not always infected by malignant disease. Care must be taken to avoid injury to the main vessels.

When all haemorrhage is arrested the divided edge of peritoneum in front of the raw tissues is united to that behind, and thus the large wound is excluded and the peritoneal sac is made continuous over the lower part of the pouch of Douglas.

The operation may require a very great degree of skill, but when the disease has not passed beyond the cervical tissues, when the patient is not immoderately stout, and when she has not previously been the subject of pelvic inflammatory mischief, the procedure is not difficult if the surgeon is accustomed to pelvic work. I rarely pay attention to the clock when I am operating, but I was informed by an onlooker that my first operation by this method occupied fifty-seven minutes—a time I have often exceeded in performing a hysterectomy for myoma. All the conditions were favourable, the ureters leaped into view as soon as the broad ligaments were opened, and the patient is alive and well more than four years later. The fact that I have for many years removed the whole uterus in preference to the operation by which the cervix is left made this new method easier. It seems to me that the death-rate in the simpler cases, before the disease has extended beyond the cervix, should be very low, hardly, if at all, higher than that from hysterectomy for fibroids.

When the disease is of long standing the effects of the operation are very different, and the story of its results is the more unpleasant in proportion to the extent of the growth. When malignant mischief passes beyond the cervix it may spread along the vagina, and if it remains on the surface and is not too extensive it can be dealt with satisfactorily, but after it penetrates the cervical or vaginal wall it extends to the bladder or bowel or out into the broad ligaments, fixing the uterus to the adjacent structures, and even before the diseased mass becomes fixed it may infect the glands, particularly those on the iliac vessels. The difficulties and dangers lie in the exceedingly limited space between the cervix and the rectum, bladder, and ureters. The disease can hardly escape from the cervix without involving one of these structures. The ureters seem to resist its action longer than the others, so that they may sometimes be dissected from the neoplasm apparently free from infection. The ureters also, fortunately, have great powers of vitality, even when a considerable length of them is completely separated from the adjoining tissues. This is well known; but I may add the evidence that in one of my cases nearly the whole of the pelvic part of the left ureter was separated from the adjacent structures, yet the patient made an uninterrupted recovery. I have read somewhere, but I cannot find the reference, that this is possible because there are many fine vessels running longitudinally in the wall of the ureter. Although the great vitality of this duct is well known, it should in all cases be manipulated with the utmost delicacy, for its sloughing after the abdomen is closed is necessarily followed by the death of the patient or the formation of a urinary fistula, which when thus formed will be permanent until cured by a further operation.

It is quite possible to open the rectum, bladder, or ureter deliberately or accidentally, and to avoid fistula formation by closing the wound at once, by reimplanting the ureter in the bladder wall, or by removing the kidney. But the risks of failure are great if the tissues to be manipulated are infected by malignant disease. The new growth and an area beyond it may also be invaded by septic mischief, and this further diminishes the prospects of union of the walls of a hollow viscus which has been opened.

There is no doubt that the primary mortality from the operation is greater as the disease is more developed. Berkeley and Bonney[1] state that the records they collected showed a mortality as follows:

186 advanced cases	... ...	23.1 per cent.
19 moderate cases	... ...	5.2 ,,
33 early cases ...	... ...	6.3* ,,

They also quote from Schauta:[2]

53 advanced cases	... ...	20.7 per cent.
126 moderate cases	... ...	11.1 ,,
79 early cases ...	... ...	3.7 ,,

A death-rate of 6.3 per cent. in early cases, or even Schauta's 3.7 per cent., seems fairly high, and a mortality of from 20.7 to 23 per cent. in advanced cases is such a serious matter that it is only justified if very definite advantages are to be gained.

There are conditions in which the surgeon should recommend without hesitation that an operation should be performed when the expectation of death following immediately is even higher than this. For example, in cases of intestinal obstruction in which treatment has been somewhat unduly delayed the risks of a fatal termination are very great, but then it is a question of interfering to give the patient a chance of permanent recovery when certain and almost immediate death will take place if no operation is performed. Recently I published in the *Transactions of the Royal Society of Medicine* (November, 1911) a case in which a woman 30 years of age had a

* The recorded higher mortality of the cases in this list operated upon early as compared with those operated upon when the disease has become more advanced is not likely to occur. It is probably accounted for by a difference amongst the various operators in estimating the degree of progress of the disease. The second table, showing the work of one man, indicates that the lowest death-rate should be expected when the disease is removed early.

tumour hanging from her buttock to below her knees, and associated with other abdominal growths. These were obviously not malignant, except for their tendency to persistent enlargement, and if the operation had been successful a restoration to perfect health would almost certainly have followed. I therefore, after explaining her prospects to the patient, felt justified in operating, although I knew that the chances of failure were as great at least as the chances of success. But in operating for cancer of the cervix uteri it is known that the risks of immediate death increase as the disease advances. The chances of fistula formation also increase, and of course there is no doubt that the probabilities that an early recurrence will take place are also greater in proportion to the degree of progress of the original growth. Moreover, although in some cases the distress accompanying death from cancer of the cervix is greater than that from a secondary development, yet it is not always so. The secondary disease may be the harder to bear. Under these circumstances it seems to me that a death-rate of 20 per cent. is so high that the surgeon is not justified in recommending radical treatment.

It may be said that the mortality will be reduced as experience increases, and that it has been so reduced by Wertheim and others. Berkeley and Bonney state that Wertheim had a mortality of 40 per cent. in his first 30 cases, and 7 per cent. in his last 30. In his first 200 cases there were 50 deaths, or 25 per cent.; in his last 258 (when the information was obtained) there were 35 deaths, or 13.5 per cent. His total mortality was 15.2 cent. It is difficult to know all the causes of the improvement, but I feel sure that, apart from definite changes of method such as that involved in Wertheim's operation, a real advance will be brought about, chiefly by a gradual increase of knowledge, and particularly by the education of women regarding the importance of an early investigation of menstrual irregularities, so that cases of advanced disease will not exist in such great numbers. In almost every operation if not in all operations on the abdomen, with increasing success and with improved methods there has also been an improvement in diagnosis and a resort to operations at an earlier stage of the various diseases concerned, and this more prompt treatment has in many cases been the most important factor in lowering the death-rate—for example, in all intestinal work. There can be no doubt that similar changes for the better will be produced also in connexion with cases of malignant disease of the cervix uteri.

On the other hand it may be put forward—and the argument may appeal to some—that a woman with this disease is in such a desperate plight that any amount of risk is justified if it gives even a small chance of recovery. The temptation to a keen surgeon to act on this view is very great, but I think it should be resisted. This is not the guide to the treatment of cancer in other parts—in the breast for example. If the surgeon thinks that he cannot remove this disease in the breast with a fair chance of eradicating it altogether he either does not operate or performs an operation which at least offers little danger to life. In cancer of the bowel, also, the surgeon does not perform a radical operation unless he has some prospect of completely removing the disease. He may be compelled in such cases to open the abdomen, but unless he thinks he can effect a complete cure a short-circuiting operation or a colotomy is performed.

For such reasons it seems to me that the surgeon, in dealing with cancer of the cervix uteri, should set before himself the object of keeping down his death-rate within at least moderate proportions rather than that of increasing the number of temporary cures at the expense of a high mortality. It does not appear to me to be for the benefit of patients, or of surgeons, or of scientific surgery, that an operation not urgently necessary to save life should be frequently performed with a mortality of over 20 per cent., and with no certainty—not even a likelihood—of permanent cure. In my opinion there is only one advantage to be gained from such operations, namely, that the enormous death-rate must direct attention to the subject, and to the need for early treatment of cancer of the cervix uteri.

It has been suggested that the abdominal operation should be employed for the more advanced conditions, and that the vaginal method, because it is supposed to be safer, should be adopted in early cases. I do not think that in the latter the death-rate should be lower by the vaginal operation, and its adoption in simple cases would sacrifice all the undoubted advantages of the new method when they are most likely to be useful. It seems to me, therefore, of the utmost importance that Wertheim's method should be applied to the earliest cases. In such the immediate results should be almost if not quite as good as those of hysterectomy for fibromyoma uteri, whilst the remote results also should be very satisfactory. Cancer of the uterus, if completely removed, shows very little tendency to return.

In dealing with these cases we too often do not have a chance of giving an opinion until the disease is so far advanced that there is no possibility of helping the patients except by soothing treatment. It would appear that many women never speak of their menstruation, some no doubt from motives of delicacy, others because they resolutely put from them the idea of any kind of abnormality in themselves. Even when they notice that something is wrong they keep the observation secret as long as they can. Only last Saturday I removed a large sloughing fibroid from a woman who, although her periods had been too free during the last six years, absolutely refused to be examined until the urethra became obstructed so that it was necessary to use a catheter, and recently I saw a patient with a large fixed quite irremovable cancer of the breast which she had successfully concealed for two years until a profuse, almost fatal, haemorrhage could not be hidden. We all know such cases.

Other women have no hesitation in discussing these matters, but it is most unfortunate that irregularities of menstruation in women about the age of 40 to 50 years are very commonly regarded as the natural accompaniments of the change of life, so that it is not considered necessary to seek professional advice about them. We, as medical men, know that, especially about the time of the menopause, every irregularity of menstruation, with the exception of a delayed or scanty flow, should be investigated. A discharge appearing too soon, or too profuse, or lasting too long, does not necessarily indicate the existence of cancer, but such irregularities are abnormal, and they may be caused by cancer of the uterus. They are especially significant if they occur after an interval of amenorrhoea, and indeed a repeated or continuous vaginal haemorrhage is an almost sure indication of the presence of cancer if it occurs three or four years after the change of life.

Another delusion is very widespread and often leads to a fatal delay in seeking advice. It is that cancer is always accompanied by pain and an offensive discharge. These are late symptoms, often too late symptoms. It cannot be too widely known that the beginnings of cancer cause no pain and no discharge—in fact, no symptoms of any kind. In this respect cancer of the cervix uteri in a woman who has not reached the menopause is peculiarly open to recognition, if she will pay heed to the warnings, because of its tendency to cause excessive and irregular haemorrhages by its mere presence apparently, very much as a mucous polypus does. Later, when the cancerous tissue breaks down, it is invaded by septic organisms, and therefore there are foul discharges. When nerves become involved in the growth and when discharges do not get freely away there is pain, but these are late manifestations indicating a stage of the disease which the surgeon never wishes to see.

Another fairly general and entirely erroneous belief is that if a woman has cancer of the womb it does not matter whether she consults a surgeon or not, that the disease is certain to recur if removed, and that therefore, so long as she feels pretty well, she is wise to take no notice of unpleasant symptoms. This is one of the greatest and most fatal mistakes. As already stated, the ultimate results of really early removal of cancer of the uterus are very good.

It is the ignorance of women regarding these points that is responsible for the fact that so many of them first consult a medical man when cancer of the womb has reached a stage which is quite hopeless, and it should be our business to direct attention to the importance of this knowledge on every suitable occasion. The medical man should of course be careful not to be a party consenting to delay in investigating these cases. There is some excuse, par-

ticularly for the more sensitive women, when they hesitate to submit themselves to a vaginal examination.

When a patient does submit to examination on account of irregular or excessive haemorrhages it is not always easy to say whether she has cancer or not. If there is an obvious hard growth standing out from the cervix or excavating its substance, which bleeds if it is scratched by the nail, and which on inspection shows a granular bossy appearance or an obviously eaten-out cavity, there is no difficulty in deciding at once that the patient has cancer, or at least that further investigation, by removing a part for microscopic examination, is necessary, but the evidences of disease may be so slight as to be hard to detect. Under these last circumstances, if there is any suspicious part, a piece should be taken off and examined. Failing the discovery of any sign of cancer in the cervix, the cavity of the uterus should be curetted to exclude or discover disease there.

Sometimes the cause of the haemorrhage is at once discovered, perhaps in the shape of a polypus, the removal of which effects a permanent cure. But it should be remembered that there may be cancer as well as some other more obvious disease. In overlooking this I was misled in one case.

A patient 33 years of age, the mother of one child, complained of irregular haemorrhages, and examination showed a definite mass in the right side of the pelvis, which was diagnosed as a suppurating Fallopian tube. The condition of the cervix uteri attracted no attention, and as any irritation of the ovary may occasionally cause irregular haemorrhages this symptom did not have its true value put upon it. On December 20th, 1909, a distended suppurating right Fallopian tube obliterated at both ends was removed. The patient recovered and went home, but returned in March, 1910, still complaining of irregular haemorrhages. A very slight enlargement of one side of the cervix uteri was observed; a piece taken out of it was found to be malignant, and Wertheim's operation was performed on March 18th, 1910. Although three months were lost in this case, the disease was still in an early stage, so that there was practically no naked-eye sign of cancer in the specimen removed, and there is reason to hope that the result may be good.

Cases such as this, when it is difficult to recognize the existence of cancer, and when its presence can only be shown by microscopic examination of a part removed, are in the earliest and most favourable condition for operation. Probably most operators mean by an early case one in which the mischief seems to be entirely confined within the tissue of a normal-sized cervix.

In more advanced cases, when the cervix is enlarged and of irregular shape and can be felt to bulge in some direction more than another at the top of the vagina, the surgeon endeavours to determine whether it has become adherent to the bladder or rectum. If the whole uterus with the cervix moves easily up and down and from side to side; if the fingers can be placed in the anterior and posterior fornices so as to fix the bladder or rectal wall, and the uterus can still be pushed down without appearing to drag the bladder or rectum, the mischief has probably not extended to these viscera. Of course the uterus moves through a greater space in some patients than in others, but it should always glide a little way on the adjacent tissues. By examination in the lateral fornices the extent of the growth at the sides may be determined. There may be a mere bulge, generally more marked on one side, or there may be a definite thickening of tissue extending right out to the pelvic wall. I would be inclined to describe the extension as "moderate" when it is fairly certain that the disease has escaped from the cervix, and that it is not fixed by adhesion to the rectum, bladder, or ureter. I should describe a case as advanced when there is little or no doubt that some of these structures are involved.

In moderate cases I think the surgeon should operate, that the immediate mortality should not be high, that the prolonging of life should average from one to three years, and that occasionally a permanent cure should occur. When the disease is advanced and the hollow viscera are more or less adherent, the surgeon must make an estimate of the extent of tissue involved and must so determine whether he can remove the disease with immediate safety to life and afterwards with some prospect of a period of relief at least commensurate with the risk taken. As I have indicated, there are various ways of looking at the questions involved. Personally I do not think operative treatment is justified when the disease is so advanced that the mortality is high, because under such circumstances the patients who recover have a prospect of only a short period of relief and incur a danger of living with a fistula for a time or permanently.

One great advantage of approaching these operations by the abdominal route is that as soon as the abdomen is opened the surgeon can examine the parts and form a very accurate estimate of the extent and relationship of the new growth, and he may, if he thinks fit, give up the attempt to remove it with the very smallest chance that the patient will take any harm from the procedure. I have on three occasions found that there were enlarged glands firmly fixed high up on the side of the pelvic wall and quite irremovable. These glands probably would not have been discovered at all if the uterus had been removed by the vaginal method, and it is almost certain that if observed they would have been found after the uterus was removed.

A complication which sometimes gives rise to considerable difficulty in making a diagnosis and in operating is the presence of old or recent inflammatory mischief in the pelvis. Before the abdomen is opened such mischief associated with an early cancer of the cervix may simulate an extension of the latter into the broad ligament, and, of course, may fix the uterus to the side of the pelvis, so that perhaps its removal may seem impossible. If there is any suspicion of such a complication the abdomen should be opened, and an examination from within may show that, so far as the cancer is concerned, the case may be an early one, and that therefore a hysterectomy should be performed.

One of the first difficulties that may arise in the course of an operation is in the finding of the ureters. Their position is variable; sometimes they are well forward at the sides of the vagina, sometimes they lie deep at the bottom of the pelvis, and they may be differently placed on the two sides. If the abdomen is very fat it is often less easy to locate them. They are sometimes felt more readily than seen. A finger and thumb placed respectively in the pelvis and between the layers of the broad ligament so as to grasp the posterior fold of the latter will usually detect the ureter, which feels very like the spermatic cord, and may be made to slip about in the tissues just like that cord.

If the difficulty is very great, it can usually be overcome by incising the peritoneum over the pelvic brim where the ureter passes from the abdomen to the pelvis. It is easily found there, and it may be traced downwards.

I have only failed to find the ureters once, and in that case, as the woman was very fat, and the disease was not in the cervix but in the body of the uterus, the necessity for operating by Wertheim's method did not seem urgent, and I performed an ordinary panhysterectomy. There was a recurrence far out in the left side of the pelvis within a year, and it seems to me that in cancer of the body as well as of the cervix the chances of recurrence would be smaller if the more extensive operation was always performed.

Another serious difficulty in operating which I have met with has arisen from the coexistence of inflammatory disease with a malignant growth. The tissues around the latter are sometimes inflamed, being unduly adherent to neighbouring structures, and along with this condition the ureters and bladder may be very soft and friable. I have frequently had considerable difficulty in separating the ureters, but there has never been any ureteric fistula. On two occasions I have opened the bladder. In both the cancer was in a very early stage, but there was much inflammatory mischief around the uterus. Both cases of bladder wound recovered without fistula formation. In one, a very recent case, the patient had complained of uterine and bladder mischief for fourteen years, and both tubes and ovaries were matted together in the pelvis. The other showed little sign of peritoneal inflammation, but the structures around the ureters outside the peritoneum were so altered that the ureters had to be dissected from their connexions instead of separated by the finger, as is usually possible. This patient was operated on in 1908, and is still alive and well.

I have operated fifteen times by Wertheim's method. My first three cases are alive and free from recurrences. Of the next two one is dead and the other has a definite return of the disease. I have not the exact details of my

later cases. There has been one death from the operation. I was very doubtful whether I should remove the parts before the abdomen was opened. When they were exposed I thought their removal was practicable. The rectum was adherent to the growth, but it seemed to be possible to detach it, and I did so, thinking that I had neither opened the bowel nor divided the newly developed tissue, but an examination of the specimen showed that I had opened the vagina in separating it. On the left the growth extended under the ureter, and it is doubtful whether it was completely removed there. No hollow viscus was opened. After the operation the intestinal condition was never satisfactory. There was no evidence of fistula formation of bowel or of the urinary tract, but on the fifth day the renal functions practically ceased, and the patient died on the seventh day. I was unable to obtain a *post-mortem* examination, and the exact conditions must therefore remain uncertain, but there is little doubt that septic mischief was the immediate cause of death.

I have explored the abdomen with a view to remove the uterus for cancer of its cervix, but did not proceed with the operation, on five occasions. In three already mentioned there were fixed irremovable glands on the side of the pelvis. In another patient I found the disease passing under the left ureter almost exactly as in my fatal case, which occurred later. Thus my earlier judgement seemed to be the better. As I have said, the temptation to proceed to remove the growth is great. In the fifth case of exploration when the abdomen was opened the disease was so closely adherent to the bladder that I did not think its removal could be accomplished.

In another case a nurse consulted me and said that two years earlier her uterus was removed for a fibroid tumour, and I diagnosed a malignant growth in the cervix, which I thought had been left in the body. The parts seemed so mobile that I advised that an attempt should be made to remove them, to which the patient eagerly assented. I found that the body of the uterus and the ovaries had been removed, and the diseased mass was more mobile even than I had thought, but on attempting to separate it I quickly saw that I was dividing the muscular wall of the bladder, and I had to desist. I closed the abdomen and put the patient in the lithotomy position, in order to bring down the new growth. A careful examination then showed that there was no uterine tissue left, but that the disease had developed somewhat in the shape of a cervix. Almost immediately after I operated on this patient a woman upon whom I had performed a Wertheim operation was sent back to me by an experienced gynaecologist as a case of cancer of the cervix, which the conditions closely simulated.

I removed the kidney on May 26th, 1911, from a patient to relieve a fistula after another surgeon had removed the uterus by Wertheim's method on February 13th, 1911. On exploring the pelvis much adhesion of intestine was found over the left ureter, and the kidney was therefore removed. Relief from the fistula was complete, and the health was good until November 15th, when there was a vaginal haemorrhage, which has returned. Now —November 29th, 1911—there is a well-developed recurrence in the top of the vagina. This completes the tale of my attempts to remove cancer of the cervix since I performed my first operation by Wertheim's method.

To sum up, it seems to me that the following conclusions are justified by our knowledge of this very important subject:

The most efficient factors favouring good results, immediate and remote, are an early diagnosis and a prompt operation.

The tendency to irregular haemorrhages accompanying the disease favours an early diagnosis, and it is of the utmost urgency that the possible significance of irregular haemorrhages and the need for investigating their causes should be known as widely as possible amongst women.

The results of early operations are very good, both as regards recovery from the operation and a permanent relief.

In the later stages of the disease the immediate and the remote results are very bad, and the operation should not be recommended unless the death-rate can be kept at least moderately low.

Wertheim's method of operating is a very great advance on any other.

REFERENCES.

[1] *Gynaecological Surgery*, p. 369, [2] Loc. cit., p. 374.

FRACTURE OF THE LOWER END OF THE HUMERUS IN A CHILD TREATED BY IMMEDIATE WIRING.

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ALL surgeons are now agreed that fixation in the fully flexed position is the correct treatment for a fracture of the lower end of the humerus. In rare cases it seems impossible, however, to get the two ends of the bones in accurate apposition, or at any rate to maintain them in good position. Then the proper treatment is that adopted here in the following case—namely, to cut down on and wire the two ends together. If the case is left with the deformity unreduced, an elbow practically useless, with little or no movement, is generally the result. It is quite rare to have to resort to the operative treatment of fractures, either at the elbow or at other parts, in children.

A boy aged 7, in September, 1911, suffered from a transverse fracture across the lower end of the humerus, due to a fall. It was put up in the fully flexed position, but the fragments could not be got into anything approaching accurate apposition. On the fourth day after the accident I cut down on the broken ends of the bones and wired them together with silver wire. The result is excellent; the patient has the power of full extension, perfect pronation and supination, and the only limitation of movement is in the direction of flexion, which is very slightly impaired. The *x*-ray photo showed the bone accurately reunited. A week or so after the operation it was noticed that the muscles supplied by the musculo-spiral nerve were paralysed. This may have occurred before it was discovered, for the arm was on splints. I think this was caused by some bruising of the nerve during the operation. The muscles have quite recovered under electrical treatment.

The operation was performed by making a vertical incision over the back of the joint and exposing the fractured ends. These were then perforated and united by silver wire. It sounds very simple to do this, but in reality it is not quite so easy as it might appear. I was much handicapped by the want of proper instruments, and finally had to make use of an ordinary carpenter's bradawl, purchased at an ironmonger's shop for twopence, to perforate the bone. This unfortunately broke after the lower fragment had been drilled, and the half of a narrow pair of scissors was employed for perforating the upper fragment. Fortunately the bone was comparatively soft. The joint was then fixed in the fully flexed position. The result has been quite satisfactory, as there are almost complete movements in all directions.

FROM the annual report for 1911 of the After-Care Association, founded by the late Rev. Henry Hawkins, Chaplain at Colney Hatch, for the aid of poor persons discharged recovered from asylums for the insane, we learn that much good work continues to be done in assisting those of the above class who are capable of employment in obtaining suitable situations. This involves much personal investigation, as peculiarities and prejudices have carefully to be considered, in finding for each case an appropriate sphere of usefulness. No less than 399 applications for aid (financial and otherwise) were received during 1911, and although some had to be declined as not coming within the scope of the association's work, it would appear that a large number were successfully dealt with, particulars being given in the report of the varied modes of relief afforded, for example, by boarding out so as to confirm convalescence when necessary, by the provision of clothing and of tools, and by the seeking out of suitable situations. We are glad to see that the council report that "the year under review has been in all respects the most successful in the career of the association;" and we note that the total amount received in 1911 was £1,353 11s. The offices of the association are at Church House, Dean's Yard, Westminster, S.W.

ENDOTHELIOMA OF THE PITUITARY GLAND WITH INFANTILISM.

BY

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THE following case, which was under my care in the Royal Prince Alfred Hospital, Sydney, on two occasions, is of special interest in view of the present divergence of opinion upon the true functions of the pituitary gland.

A boy, 16 years of age, a telegraph messenger, was admitted to hospital in 1907, with a history of headache for some considerable time, accompanied by a feeling of drowsiness and disinclination for any kind of food, with some wasting. His height was 4 ft. 8 in., and weight 4 st. 5¼ lb.

History.

The family history was good. All the other members of the family are healthy, and there is no tuberculosis. He had measles six years ago and influenza three years ago.

His present trouble is a continuation of a state he has been in for some years. As long as he can remember he has been subject to headaches, chiefly in the frontal regions, but it is only during the last six months that the drowsiness and anorexia have come on. He has had frequent attacks of vomiting which have always been preceded by a feeling of nausea. He has always been very thin, but has lost weight during the last six months, and he is somewhat anaemic.

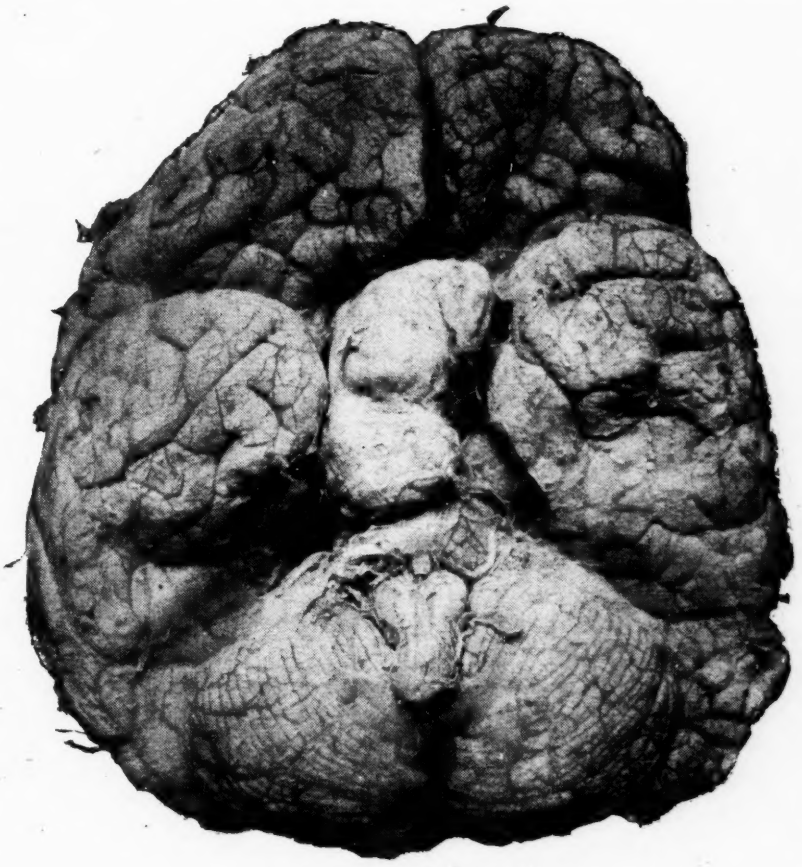

Fig. 1.—Brain with tumour *in situ*.

Condition in 1907.

Although he is 16 years of age he is undeveloped, skin smooth and delicate, the limbs small, no hair on face, in the axillae or on the pubes; the genital organs are infantile in type, and his voice is effeminate.

He complains of frequent headaches, his intelligence is excellent, memory good, no affection of speech; his eyesight is good, the pupils are equal and react normally to light and convergence, the ocular movements are good, but there is a history of occasional diplopia. The visual fields are normal, there is no optic neuritis, or retinitis, there is no deafness, or tinnitus, and no giddiness. He is always sleepy; there is no paralysis, but all the muscles are weak, the right hand grasp being rather weaker than the left, and the movements of the right leg somewhat weaker than those of the left. There is no disturbance of sensation of any kind. The deep reflexes are brisk, equal on both sides, and no Babinski. The abdominal and cremasteric reflexes are active on both sides.

The heart and lungs are clear, but the aortic second sound is somewhat accentuated. The pulse varies from 80 to 96, rather high tension; the arteries are slightly rigid. He has no appetite—in fact, it is difficult to get him to take food. The abdomen is rather retracted, but there is nothing abnormal to be made out on examination. The bowels generally act normally. There is some frequency of micturition, the urine is very pale, specific gravity 1007 to 1012, faintly acid, contains no albumen or sugar.

He remained in hospital for six weeks.

It will be seen from these notes that the diagnosis was extremely difficult, and the only points to guide one were the high arterial tension, the large amount of pale urine of low specific gravity, the headache and vomiting. In the absence of optic neuritis and any localizing symptoms of brain tumour, we were driven to the diagnosis of chronic interstitial nephritis. He was discharged from hospital slightly improved in general health. He remained in fair general health till readmission to hospital in August, 1909.

Condition in 1909.

He had not apparently grown in height or development since being in hospital on the last occasion, but he was now about 2 lb. heavier.

He complained still of headache and occasional vomiting of cerebral type. His memory was defective, and had been getting worse for the last year. He was quite intelligent, but could not fix his attention. Headache was constant day and night; it disturbed his sleep, and was made worse when he tried to read. Everything seemed a trouble to him. The pupils were small and equal; they reacted to light and convergence and the ocular movements were normal. Examination of the media showed a post-neuritic atrophy in both discs, and investigation of the fields of vision revealed a very definite bitemporal hemianopsia. His vision was $\frac{6}{9}$ in each eye. There was no other cranial nerve affection. His muscular power was feeble, as all his muscles were but poorly developed; he could not walk except with assistance as he tended to fall backwards. There was no disturbance of sensation. His knee-jerks were increased, more so on the right side than the left; there was no ankle clonus and the plantar reflex was flexor in type.

There was now no excess of urine; it was alkaline, sp. gr. 1020, and contained no albumen and no sugar. His temperature on admission was subnormal, pulse 90, and respiration normal.

Six days later he had two or three fits, in which he became completely unconscious, breathing stertorously, and sweating profusely. The limbs became rigid, the reflexes were exaggerated, and a Babinski reflex was present on both sides, but was easily exhausted. He had incontinence of urine during the fits. The temperature

rose to 103°, and remained high for some days, varying from 99.8° to 105°. Lumbar puncture furnished some cerebro-spinal fluid which did not escape under pressure, and microscopic examination showed only a few lymphocytes, but no organisms; the fluid was sterile on culture. There was marked prostration, with dry brown tongue, sordes on the lips, and general hebetude. From this state he gradually recovered, but there was a definite weakness on the right side, and on his discharge from the hospital there was ankle clonus on the right side and double Babinski reflex.

He died in his own home a few months later, but he was seen at intervals from the time of his discharge from the hospital up to the time of his death, and no material change took place in his condition.

On this occasion there was no doubt that he had a lesion of the pituitary gland, but the nature of that lesion was obscure. It was quite clear that this gland was enlarged, because there was pressure on the optic chiasma, the post-neuritic optic atrophy and the bitemporal hemianopsia showing this.

As the patient died outside the hospital, it was only possible to make a partial *post-mortem* examination. The brain was obtained and the photographs show that the pituitary gland was replaced by a large neoplasm, the size of a large walnut. Histological examination by Professor Welsh, of Sydney University, showed that the growth was an endothelioma, which had invaded the gland, and only very little of the glandular tissue remained. It was not possible from examination of the tissue to say which lobe of the pituitary gland had been first invaded.

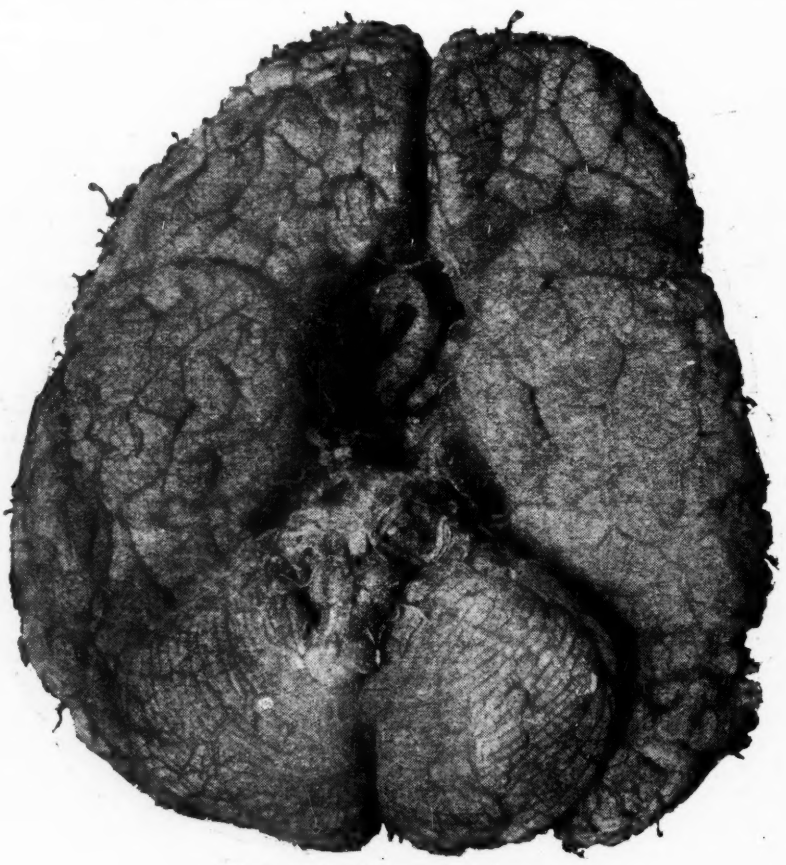

Fig. 2.—Brain after removal of tumour.

Reviewing the clinical history in the light of the *post-mortem* evidence, we can understand the symptoms he presented on his first admission to the hospital. For there can be little doubt that the headache and vomiting were due to the growth in its early stage, and the high arterial tension with increased flow of urine were the result of a hypersecretion of the pituitary gland (anterior lobe). In this connexion it is interesting to note that Harvey Cushing has recorded two cases of tumours compressing the pituitary gland, in both of which the symptoms were mainly urinary, and the diagnosis of chronic interstitial nephritis was made at first. So in making an erroneous diagnosis in the first instance I was in good company.

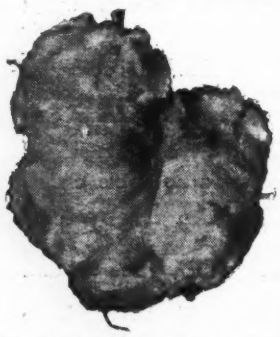

Fig. 3.—Tumour of the pituitary.

While it is well known now that cases of acromegaly have occurred in which no macroscopic lesion of the pituitary gland has been observed, and conversely tumours of the pituitary gland have been observed with absence of the clinical symptoms of acromegaly, so far as I have been able to observe from the literature, no case has been recorded of a large neoplasm involving and completely replacing the pituitary gland in association with a definite infantilism *without adiposity*. (Compare Frohlich's syndrome.) We are left in doubt as to whether the infantilism was really due to the destruction of the pituitary gland and the failure of its internal secretion. There is no doubt that there is a close connexion between the activity of the pituitary gland and the sexual organs. For in acromegaly in men we have complete loss of sexual power, and in women amenorrhoea is a well recognized symptom. There is also good reason to believe that the changes in the body which are associated with the development of puberty in both sexes are due to the activity of the internal secretion of the sexual glands. But if we are to assume that acromegaly is the result of hyperpituitarism, then we must believe that the overactivity of the pituitary decreases the activity of the sexual organs; and if the internal secretion of the latter is suppressed we should get theoretically a failure of the development of the specific body features of puberty. If hyperpituitarism leads to excessive growth of the bony skeleton, then, in view of the symptoms of hyperpituitarism manifested by this boy on his first admission to the hospital, he should have shown rapid growth rather than delayed growth and infantilism. However, our present knowledge does not enable us to dogmatize on these questions. My only object in reporting this case is to furnish further evidence on which future studies of the physiology and pathology of the pituitary gland may be based.

THE annual report of the National Society for the Prevention of Cruelty to Children shows that last year the inquiries made by its inspectors numbered 54,118, and in 52,371 instances the reports leading to the inquiries proved to be true. In the majority of cases the society contented itself with warning the persons concerned, but in 2,356 instances it thought it right to institute prosecutions, and only 61 of the cases were dismissed by the courts. The commonest offence was neglect. The total number of children concerned in the reports which inquiry proved to be well founded was over 156,000. The society now has a bureau at which an immense amount of information relating to children has been indexed on the card system, and this it places at the disposal of those desirous of studying the subject or of speaking thereon. The head quarters of the society are at 39, Leicester Square, and its telegraphic address is "Childhood, London."

THE APPENDICITIS DILEMMA, AND THE PRE-OPERATIVE DIAGNOSIS.

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APPENDICITIS is pre-eminently a surgical subject, but its enlarging public importance involves the entire profession in some responsibility. A question was once asked in jest, but we are drifting towards its consideration in logical earnest, whether a second Mosaic rite might not be in store for us. Our sphinx presents us with two propositions, which spell, unless we can solve them, "operate quick—and operate always." *Proposition one* reads: There may be no evidence of "gravity," yet the patient's life may be in the balance; and *proposition two:* There may be no "local evidence," yet the patient's dyspepsia or abdominalgia of any site may be the genuine expression of an appendicitis in progress, and if so, possibly of a serious appendicitis. If these premisses are right, there is no escape from a drastic conclusion. Are they right? As the whole question turns upon the uncertainty of diagnosis, there may be some excuse for a preliminary inquiry how we really stand with regard to the latter, reserving for a future occasion any practical suggestions in the direction of improvement.

The Present Situation.

This is not satisfactory for any of those concerned. The patient has to bear the ordeal, the surgeon the onus, and the physician that unearned discredit which may not always be to the best advantage for the interests involved. *Tempora mutantur.* Those days are not so far distant when, in duty to a now vanished etiquette, the physician was shy of the knife and hypodermic syringe; and the surgeon of the stethoscope—content to trust its report at second hand as a guide for an operation which sometimes his medical colleague might have suggested. At St. George's Hospital (in 1883) that honour was once done to a mere assistant-physician by Timothy Holmes, who agreed to cut down upon a small swelling which his junior had traced in the right iliac fossa. My patient long survived its extirpation, one of the earliest, if not the first, of pure and simple appendectomies, for it was none else than a convoluted but fairly healthy though "matted" appendix, which was not, however, recognized as such until the pathologist's report allayed the operator's alarm at having apparently excised a length of the ureter. Incidentally this brings to mind that some "practical use" has at last been found for the appendix, in the shape of its successful transplantation by Erich Lexer [1] to "stop a gap" in the urethra. More wisely our surgeons now trust their own percussion; less wisely, perhaps, they may often neglect that modicum of help which an adequately complete examination by the physician might possibly have contributed. Presumably they had found it wanting; but need that always be so?

Appendicitis "of Physical Signs," and Appendicitis "of Symptoms."

1. Physical signs are at a discount with the surgeon. Present when they are "superfluous" for his decision, they are generally "absent" in a majority of his cases where he would be the first to welcome them. That is the chief gravamen from the side of the patients (though, as will be pointed out, they also have another); they might fairly object if they knew that their operation was being undertaken *without any objective evidence.* Truth to tell, however well justified for ourselves, that position is hardly justifiable to public opinion.

2. The larger group have no physical signs so far: the symptoms or our dread of them decide the operation. The weakness of this broad classification, convenient so far as it goes for our discussion, is that it contains no reference to the gravity of the case. The most awkward of our facts is that some of the worst lesions must inevitably remain truly latent by reason of the occasional slightness of any inflammatory reaction. But, with that exception, taking the bulk of cases, the only "absolute latency" has been in reality that of any adequately efficient method of diagnosis. The desirable under this head would clearly be to reduce Group 2, now almost all-absorbing, to its legitimate limits, which are much narrower than is generally suspected; and to assign to Group 1 its due proportion, which will probably be found to be increasingly considerable.

"Urgency" and "Expediency."

Passing from this confused and comparatively useless grouping to practical clinics, we come to the common-sense surgical classification. "Operate at once for obvious necessity." "Diagnose if you can, but operate always whenever in doubt, and rather sooner than later, for safety." (1) For most of us *urgency* of symptoms is a supreme indication. This has always been true of *pneumonia*, as it is now of appendicitis. The last thing the pneumonic patient required was the exhaustion of an exhaustive examination: there was one thing needful and only one, "immediate treatment" to give him the best chance, his "first" which too often is in reality his last chance, by strictly harmless but efficient help. Yet surgeons there are who are not immediate operators. That is a purely surgical question; but the plain physician's view is that they take upon themselves the serious responsibility for a most careful watch. The excuse of "urgency" being dropped, a complete examination day by day, or at least some adequate examination as to the progress of a probable abscess, would seem to be an unavoidable duty. (2) *Expediency!* Where does it begin and where does it end? In the vast remainder of cases which require a *preoperative diagnosis* there are three views. The patient claims evidence, and all the evidence, for his consent; the physician in these technical matters is his appointed trustee; whilst the surgeon has to bear the brunt of the responsibility, with single eye to the patient's welfare, which is synonymous with the success of his operation. But surgical views and methods vary. For instance, antisepsis had strong opponents in London, even for its mere trial, long after Holmes had first brought it from Edinburgh to St. George's Hospital; a physician's view might sometimes have been of use in those days. Here, however, there is no suggestion as to any revolution; it is simply additional light that is desired, and eventually it would be welcomed by all surgeons. Meanwhile the physician, acting in the patient's best interests, might still sometimes, perhaps, be able to suggest surgical advantages for the surgeon's own consideration. This specially refers to the patients' other gravamen under our present routine of practice. They would, if consulted, insist upon every small guide that might conceivably favour the operative procedure. I admit that, had I to operate upon the usual urgent case, I should make little of the necessity for any searching abdominal examination, seeing that the operation was about to furnish ocular demonstration; and yet there is still a reservation for those cases which do not immediately yield up their secret to the abdominal incision. But as regards all other less urgent cases, we should secure for the patient the full advantage which he might gain from the operator having previously considered all the evidence obtainable from a complete preliminary examination. For the surgeon this is an unobjectionable and eminently satisfactory course, for the patient and his physician it would seem to be the only satisfactory fulfilment.

"Anterior" Appendicitis: "Central" Appendicitis: and "Posterior or Retrocaecal" Appendicitis.

This localizing classification, each member of which has its subvarieties, "urgent," "acute," "subacute," and "chronic," and its varied complications, is not an exhaustive analysis, but is probably as much as any surface exploration can achieve. Yet, speaking under correction, I believe that surgical diagnosis does not quite run to it yet, and that its chief lapses concern the largest group, that of the "retrocaecal" cases, whether these be severe (including abscess), or, as in the majority of instances, subacute and relapsing with comparatively slight lesions. All these almost invariably elude the most searching palpation; only "anterior" appendicitis and sometimes also, though much less surely, the deep-seated "central" varieties, being amenable to the usual examination.

It is for this large retrocaecal contingent that further help is most needed, of a kind universally available and

both easier and more reliable than skiascopy which has been recently proposed. The method which I have elaborated, and practised for upwards of two years, aims at materially reducing that roll of latency. Some cases must continue to remain latent in the true sense; but it succeeds in demonstrating in a considerable percentage the presence of the abnormality, though not necessarily its nature. Moreover, it also aims at testing by means of a "normal standard" the healthy subjects who may have been passed as apparently quite free from physical signs as well as symptoms, as to the genuine soundness of their retrocaecal district. There for the present the matter must rest, as I am submitting to the Surgical Section at Liverpool the results of my clinical observations, in the hope that in spite of the onus of novelty, of any taint of false doctrine, and of the inevitable imperfections of the thing "im werden" which sometimes may hold more of the future than it quite knows, they may obtain a surgical hearing and a demonstration.

REFERENCE.
[1] *Wien med. Klin.*, No.39, 1911.

NEW METHODS FOR THE CULTURE OF BACTERIA.

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STARTING with the idea that the different tissues of the body possess their own specific salt content apart from having a specific protein content, knowing further that in each individual tissue the essential difference would be one depending on the nuclear metabolism of that tissue, recourse was had to the following procedure, which has been in use by me for nearly one year.

In every case the different organs, such as the brain or liver or skin, are freed as much as possible from blood with the view of eliminating bactericidal principles. The organs are then taken through a sterilized mincing machine and the minced material is placed in an Erlenmeyer flask, the weight of which is known. To every gram of the organ, taken originally, 2 c.cm. of sterile distilled water are added, and finally about 10 c.cm. of chloroform for each 100 grams of the mixture of the organ and water. No definite amount of chloroform can be stated, for certain organs, such as the brain, will bind more chloroform because they contain a higher percentage of fatty substances than will other organs such as the spleen in which the fat content is practically *nil*.

After shaking up the minced organ with the water and the chloroform for ten minutes, and then waiting for ten minutes to allow the excess of chloroform to separate out, at least 5 c.cm. of pure chloroform should be at the bottom of the flask. The Erlenmeyer flask is closed with a well-fitting stopper, perforated by a glass tube having 1 mm. diameter to allow of pressure adjustments, and is then incubated at 3 ° C. It is shaken up twice the first day and at least once every succeeding day to make sure of the whole content of the flask being saturated with chloroform. After a period varying from twenty-four hours to sixty days the supernatant fluid containing the products of digestion is poured off, and is filtered through a sterile barium sulphate filter paper (using preferably a suction pump) to get as clear a solution as possible.

The filtrate, smelling strongly of chloroform, has next passed through it a stream of sterile air. Originally the air was rendered sterile by allowing it to pass through four successive Erlenmeyer flasks, of which the first contained strong sulphuric acid, the next 5 per cent. potassium permanganate, the next 5 per cent. caustic potash, and the last flask distilled water. Now I use simply a glass tube, a foot long, having an internal diameter of 1 c.cm., and filled with absorbent wool, till sucking air through the tube, by placing it in one's mouth, becomes rather difficult. This tube is slightly drawn out at the ends, and is sterilized in an autoclave along with the Berkefeld filtering plant. The candles generally used are No. N, and should never be relied on till they have been tested with bacterial cultures.

A great difference will be found in the behaviour of extracts made from different organs, even if they have been digested for the same length of time, on sucking air through them, because some will foam a great deal more than will others—for example, the lung (because of the mucus) and embryonic skins are especially difficult to free from chloroform. It will be found best to place the filtered organ extracts into two litre flasks, and to keep the flasks constantly on the move. Apart from organs which contain mucus, which latter is not digested, or which at least does not cease to remain slimy, in all organs the foam formation will be lessened by the length of the digestion, as digestion liberates electrically active amino-acids, which, of course, lower the surface tension. Generally speaking, passing air for one to one and a half hours through 200 c.cm. of organ extract will remove the chloroform completely; but in the case of extracts of the central nervous system it may be necessary to keep the extract at a temperature of 38° C., but not higher. One of the advantages of the method given above is that each tissue has its own specific salt content—by which I mean that some tissues are rich in potash salts, while others are abundant in sodium salts, etc.

What seems at first a disadvantage, namely, the dilution of the salt content from the normal to one-third, by taking two parts of water to one of the organ, is in reality an advantage, because the hypo-isotonicity produced by the addition of water is counterbalanced by the increase in the number of molecules set free by digestion. Only in the case of nucleo-protein extracted by water is it necessary to add salt to bring the solution to about 1 per cent. isotonicity in the preliminary experiments, and then subsequently to dilute or increase the tonicity according to the effect we desire to produce in the morphology of our bacteria or other parasites. In the case of nucleo-proteins another precaution will have to be taken—namely, that of neutralization. I use a modified Locke's solution:

Dissolve NaCl=9; KCl=0.5; $NaHCO_3$=0.25; $CaCl_2$=0.25 in water 100 c.cm. Sterilize in autoclave, and add one part of this mixture to two parts of the organ extract before filtering the latter.

In the case of auto-digested organs, apart from the nucleo-protein problem, the best results I have obtained so far by using one part of the organ extract—for example, brain or liver—to from one to three parts of Deetjen's solution:

Deetjen's solution for blood platelets, leaving out the 1 per cent. agar, contains NaCl=0.6 g, sodium meta-phosphate ($NaPO_3$)=0.6 g, di-potassium phosphate (K_2HPO_4)= 0.3 g. Water up to 100 c.cm. Boil till the meta-phosphate is dissolved. I make a stock solution ten times the strength just given and autoclave it.

The time the organs are allowed to auto-digest depends on what special radicals in the tissues we want to study in relation to their effect on bacterial growth. Thus the nucleo-proteins are readily extracted from the cells whenever the fluid medium which was used for this purpose is about one-third of the original isotonicity of the cell. The life of the nucleo-proteins in watery media in the presence of chloroform is, however, not very long, judging by the oxidase reaction of the nucleo-proteins, and therefore it is necessary to use extracts of organs which have not digested for more than twenty-four to forty-eight hours if one wants to study the effects of the nucleo-proteins on bacteria or other parasites.

Of course, if it is a question of simply studying the effect of nucleo-proteins themselves apart from auto-digestion, we would keep the material which we subsequently wish to auto-digest in an ice-chest to allow of the diffusion outward of the nucleo-proteins, then we would decant the supernatant fluid. Now we may add chloroform in the percentage stated above, and allow auto-digestion to go on in the incubator.

If we do not desire to study simply the effect of the nucleo-proteins, but also that of the cytoplasmic radicals, such as mono-amino and di-amino acids both in open-chain and ring compounds, it is not difficult to see that the longer we allow cells to auto-digest the less will the final products of digestion resemble the original combination in which these radicals existed, although the numerical proportion between the individual radicals out of which the cytoplasm was built up will not be altered.

It follows, therefore, that if it is our desire to study how different organs, after a preliminary auto-digestion, will behave towards any known bacterium or other parasite, it

is necessary to shorten the period of auto-digestion as much as possible. The same reasoning, of course, applies if we are in search of an unknown virus, which, however, produces a specific effect on a given organ, as does, for example, hydrophobia on the nervous system, vaccinia on the skin, and the lymph beneath the skin, etc.

In dealing with the immunity factor I was led by the consideration that we have to distinguish between the acquired immunity of the individual and the inherited immunity of the genus or species to which any given individual belongs. Therefore I used, in addition to the tissues and organs of adult individuals, those obtained from embryos and fetuses at different times of life, using especially cow and pig embryos, because these are readily obtained from the slaughterhouse.

The younger an embryo or fetus the less will the acquired immunity be; and the greater the difference in the species—for example, dog and rabbit—the more likely is it that we shall succeed in cultivating dog parasites in auto-digested dog extracts, and rabbit parasites in auto-digested rabbit extracts.

The above mentioned line of research has been applied by me to an investigation of the virus of hydrophobia and of vaccinia, and a detailed account will be published soon.

My reason for having suggested over two years ago to Professor Duval the use of the banana was this—that the skin and adjacent layers of the banana are fairly rich in oxidase, which latter in the presence of oxygen will act as an oxidizing medium, and in the absence of oxygen as a reducing agent. Other media which have been used by me are yellow lentils, from which the oxidases are readily extracted by 5 per cent. sodium chloride; and spleens, from which oxidases may also be obtained in large quantities by ammonium or sodium chloride.

My reasons for suggesting to Professor Duval, in connexion with his leprosy work, the three amino-acids—namely, tryptophane, lysin, and cystin—are these: Henriques showed[1] the absolute necessity of tryptophane for obtaining nitrogen equilibrium, and my own work showed the difference between acid hydrolysis and pancreatic digestion to be simply due to the fact that the former destroys tryptophane, while hydrolysis with alkalis does not destroy tryptophane, and therefore acts as do trypsin and bacteria in general. Lysin is also absolutely essential because it is absent in zein, gliadine, and mucedin, which makes these foods unable to maintain nitrogen equilibrium, as is well known. Cystin was suggested for two reasons—first, because I thought it might be used for binding deleterious by-products from such aromatic compounds as tryptophane, phenols, etc.; and secondly, because at that time I was under the erroneous impression that the leprosy bacilli attacked epithelial cells as well as the subjacent connective tissues, and, as is well known, epithelial tissues are specially rich in cystin. That both tryptophane and cystin may act as reducing agents is explained in my *Chemistry of Proteids*, where also the early history of the use of the amino-acids for bacterial cultures is discussed.

REFERENCE.

1 *Zeitsch f. physiolog. Chem.*, 44, 406 (1907).

THE French Minister of Marine has granted permission for the use of antityphoid vaccine in the French navy, provided it is entirely optional.

AMONG numerous bequests contained in the will of the late Sir Julius Wernher are several which aim at the promotion of the study of science or at the support of charities of a medical order. Among the former is a gift of £100,000 to the Imperial College of Science and Technology at South Kensington. This institution is also given two-twelfths of the residuary estate, but such extra share is not to exceed £50,000. In regard to medical charities £20,000 is left to the German Hospital at Dalston; £25,000 to King Edward's Hospital Fund; £2,500 to the hospital at Kimberley, South Africa; £5,000 to the London Hospital; £2,500 to the Bute Hospital at Luton; and £1,000 to the Children's Home in the same town. In addition to its direct bequest, King Edward's Hospital Fund is granted one-twelfth of the residuary estate, but the sum accruing thereby is to be treated as part of the capital of the said fund and not as part of its annual receipts. Another important bequest is one of £250,000 for the purpose of assisting in the building, and if sufficient, in partly endowing, a university at Groote Schuur, near Capetown, provided that the constitution of the said university shall be approved in writing by Sir Leander Starr Jameson and Sir Lionel Phillips.

THE SCIENCE COMMITTEE OF THE British Medical Association.

REPORTS TO THE THERAPEUTIC SUBCOMMITTEE.

THE BACTERICIDAL ACTION OF THE CRESOLS AND ALLIED BODIES AND THE BEST MEANS OF EMPLOYING THEM.

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(Concluded from page 1297.)

V.—ON THE CHOICE OF EMULSIFICANTS FOR THE HIGHER TAR ACIDS.

SOFT soap was found to be an inefficient emulsificant for the higher tar acids. A search was therefore made for substances superior to soft soap in emulsifying power. They were at first looked for amongst proteins and carbohydrates.

Aqueous solutions of egg-albumen were useless for the emulsification of the phenols, because the protein was immediately coagulated.

Casein, on the other hand, was not precipitated by the phenols and possessed considerable emulsifying power. A 6 per cent. solution of casein was used for emulsification and was prepared by dissolving precipitated casein in a 1·5 per cent. aqueous solution of sodium carbonate with the aid of heat.

Equal volumes of the casein solutions and of the tar acids were triturated together and the tar acids were thereby emulsified, forming a white emulsion. These emulsions, however, were not readily miscible with water and they were also less permanent than emulsions of the same tar acids with soft soap.

Saturated aqueous solutions of glucose, solutions of agar-agar, and 1 per cent. solutions of starch possessed no emulsifying properties towards the higher tar-acids.

Mucilages of gum acacia and gum ghatti, however, were able to emulsify the higher phenols, but the resulting emulsions, although readily miscible with water, were not so permanent as those made with soft soap.

The emulsifying agents of protein and carbohydrate nature employed were thus not as efficient as soft soap, and a further examination of the soap class of emulsificant was made. Resin soap, although it was used as an emulsificant of the cresols, could not permanently emulsify the higher phenols. It had a further practical disadvantage, inasmuch as admixtures of resin soap and the high boiling point phenols were of an excessively viscous nature.

Castor-oil soap, however, was found to be an efficient emulsificant for the higher tar acids. Castor oil and tar acid were mixed and heated in the water-bath; the potash dissolved in water was added to the hot mixture and heating was continued until saponification was complete, this stage being reached when there was no longer a fatty scum produced when a drop of the mixture was diluted with water. The products were dark-coloured fluids, which were not very viscous and which gave stable emulsions with water.

VI.—GERMICIDAL POWER AND COST IN THE CASE OF THE COAL-TAR DISINFECTANTS.

The costs of the various preparations are best compared in terms of their carbolic coefficients. The costs of the amounts of the disinfectants equivalent in germicidal power to 10 lbs. of carbolic acid have been determined. These are obtained by dividing the price per 10 lbs. by the carbolic coefficient.

Soft soap quality P.C., which is 17s. per cwt. or about 2d. per lb., is much cheaper than the B.P. quality. As will be shown in Chapter VII., there is no advantage in using the more expensive quality and it has therefore been assumed in calculating the costs that the former would be employed.

For the purpose of calculation the following costs of other

ingredients used in the manufacture of the disinfectants have been used:—

Resin	2d. per lb.
Potash (purified by 87 per cent. alcohol)	1s.9d. per lb.
Castor oil (bleached and filtered)	9d. per lb.
Phenol (pure crystals)	£2 per 10 lbs.
B.P. liquefied phenol (containing 9-10% water)	10s. per 10 lbs.
Crude carbolic acid	1s. to 1s. 7½d. per gal. [1½d. per lb.]
Thymol	7s. per lb.
Crude mixture of tar acids	3s. per gallon

The separated fractions of the higher tar acids (Fractions I. to X.) are sold at 2s. 6d. per gallon (about 3d. per lb. on the condition that all the fractions are simultaneously bought. If, however, a selection of one or more of the fractions were made the price would be much higher. The costs are worked out below on the assumption that no selection would be made.

In the following tables are given the cost of making the various preparations and also the costs of the amounts equivalent in germicidal power to 10 lbs. of phenol. Since germicidal power depends so much upon the conditions of disinfection, the costs of employing the various disinfectants for different purposes have been made out.

TABLE XVII.

Disinfectant.	Conditions of Disinfection.	Carbolic-acid co-efficient.	Price per 10 lbs. of disinfectant.	Cost of an amount of disinfectant equivalent in germicidal efficiency to 10 lbs. of pure phenol at £2.
				s.
BCD Tar-acid Fractions, I. II. III. emulsified with an equal weight of soft-soap.	Disinfection of Staphylococcus in absence of organic matter	1·6	2/1	1·30
	Disinfection of B. Typhosus in absence of organic matter	3·0	—	0·70
	Disinfection of B. Typhosus in presence of fæces (10% solid matter)	1·8	—	1·15
E Crude carbolic-acid, emulsified with an equal amount of soft-soap.	Disinfection of Staphylococcus in absence of organic matter	1·9	1/8	1·75
	Disinfection of B. Typhosus in absence of organic matter	1·5	—	1·10
	Disinfection of B. Typhosus in presence of fæces	1·1	—	1·50
	Disinfection of pus	1·2	—	1·66
H Crude carbolic-acid 50 Castor oil 20 Potash - 5 Water - 5 all by weight	Disinfection of Staphylococcus in absence of organic matter	1·6	3/9	2·34
	Disinfection of B. Typhosus in absence of organic matter	3·6	—	1·04
	Disinfection of B. Typhosus in presence of fæces	2·2	—	1·70
I Tar-acids, Fractions I., II. or III. - 50 Castor oil 20 Potash - 5 Water - 5 all by weight	Disinfection of Staphylococcus in absence of organic matter	2·9	4/6	s. 1·55
	Disinfection of B. Typhosus in absence of organic matter	5·2	—	0·86
	Disinfection of B. Typhosus in presence of fæces	3·4	—	1·32
J Crude carbolic-acid 50 Resin - 25 Potash - 6 Water - 5 all by weight	Disinfection of Staphylococcus in absence of organic matter	1·9	2/6	1·31
	Disinfection of B. Typhosus in absence of organic matter	2·5	—	1·00
	Disinfection of B. Typhosus in presence of fæces	1·8	—	1·39

TABLE XVII.—*Continued.*

Disinfectant.	Conditions of Disinfection.	Carbolic-acid co-efficients.	Price per 10 lbs.	Cost of an amount of disinfectant equivalent in germicidal efficiency to 10 lbs. of pure phenol.
K Tar-acid Fractions I., II., and III. - 50 Resin - 25 Potash - 6 Water - 5 all by weight	Disinfection of Staphylococcus in absence of organic matter	3·0	3/2	1·05
	Disinfection of B. Typhosus in absence of organic matter	3·6	—	0·88
	Disinfection of B. Typhosus in presence of fæces	2·6	—	1·22
T Fraction IV. (208-209°c) 50 Castor oil 20 Potash - 5 Water - 5 all by weight	Disinfection of Staphylococcus in absence of organic matter	3·7	—	1·23
	Disinfection of B. Typhosus in absence of fæces	6·8	—	0·67
	Disinfection of B. Typhosus in presence of fæces (10% solids)	2·4	—	1·91
U Fractions V and VI (209°-218·5°c) 50 Castor oil 20 Potash - 5 Water - 5 all by weight	Disinfection of Staphylococcus in absence of organic matter	5·5	4/7	0·83
	Disinfection of B. Typhosus in absence of fæces	7·2	—	0·64
	Disinfection of B. Typhosus in presence of fæces	3·1	—	1·48
V Fraction VII. (228.5°—225.5°) 50 Castor-oil 20 Potash - 5 Water - 5	Disinfection of Staphylococcus in absence of organic matter	5.7	4/7	0·80
	Disinfection of B. Typhosus in absence of organic matter	9·5	—	0·48
	Disinfection of B. Typhosus in presence of fæces	3·0	—	1·53
W Fraction VIII. (225·5°—240°C) 50 Castor-oil 20 Potash - 5 Water - 5	Disinfection of Staphylococcus in absence of organic matter	8·6	4/7	0·53
	Disinfection of B. Typhosus in absence of organic matter	14·1	—	0·32
	Disinfection of B. Typhosus in presence of fæces	3·2	—	1·43
	Disinfection of pus	6·0	—	0·76
X Fraction IX. 50 Castor-oil 35 Potash - 8 Water - 7 All by weight	Disinfection of staphylococcus in absence of organic matter	11·6	5/5	0·47
	Disinfection of B. Typhosus in absence of fæces	13·8	—	0·33
	Disinfection of B. Typhosus in presence of fæces	3·6	—	1·48
	Disinfection of pus	5·0	—	1·08
Y. Fraction X. 50 Castor-oil 35 Potash - 8 Water - 7	Disinfection of staphylococcus in absence of organic matter	12·8	5/5	s. 0·42
	Disinfection of B. Typhosus in absence of fæces	13·0	—	0·42
	Disinfection of B. Typhosus in presence of fæces	2·0	—	2·60
	Disinfection of pus	1·5	—	3·60
Thymol - 50 Castor-oil 20 Potash - 5 Water - 5 by weight.	Disinfection of Staphylococcus in absence of organic matter.	23	£2 7 11	2·08
	Disinfection of B. Typhosus in absence of organic matter.	30		1·6
	Disinfection of B. Typhosus in presence of fæces.	8·8		5·44

TABLE XVII.—*Continued.*

Disinfectant.	Conditions of Disinfection.	Carbolic-acid co-efficients.	Price per 10 lbs.	Cost of an amount of disinfectant equivalent in germicidal efficiency to 10 lbs. of pure phenol.
Mixture of crude tar-acids - 50 Castor-oil 20 Potash - 5 Water - 5 by weight	Disinfection of Staphylococcus in absence of organic matter.	2·5	0 5 0	2·00
	Disinfection of B. Typhosus in absence of same.	6·8		0·73
	Disinfection of B. Typhosus in presence of fæces (3 %)	2·4		2·08
	Disinfection of pus	2·7		1·82

The following conclusions are drawn from these results :—

(i.) It is more economical to use the resin-soap preparations of crude carbolic acid than those containing soft-soap and the latter rather than the castor-oil soap preparations. The disinfectants containing resin-soap have the disadvantage, however, of producing milky dilutions with water while the dilutions of the soft-soap preparations are nearly clear.

(ii.) For the disinfection of Staphylococcus* in absence of organic matter, of typhoid stools and pus it is more economical to employ crude carbolic acid emulsified with soft-soap than the crude mixture of tar-acids preparation.

(iii) It is more economical to employ the higher boiling-point phenols (Fractions IV. to X.) for disinfection in the absence of organic matter than the cresols. This advantage increases with the boiling points of the tar acids, but its practical value is decreased by the great expense incurred in obtaining a large amount of any *separate* fraction. There is no such advantage in the presence of fæces; in fact, under these conditions it is usually more economical to use the cresols.

(iv) The use of the thymol preparation is more costly than that of crude carbolic acid emulsified with soft soap, especially in the presence of organic matter.

VII.—OBSERVATIONS BEARING ON THE ALKALINITY, TOXICITY, IRRITATING PROPERTIES AND ACTION ON RUBBER OF THE PREPARATION OF CRESOLS AND HIGHER PHENOLS.

1. *The alkalinity of the preparations.*

When the soap preparations are diluted with water, some of the soap is hydrolysed with production of fatty acid and potash :—

$$H_2O + K\overline{X} \rightleftarrows H\overline{X} + KOH$$

(Soap; Fatty acid)

The free alkali so formed will for the most part combine with the phenols, forming phenolates. The phenolates are also hydrolysed in aqueous solution :—

$$H_2O + C_6H_5OK \rightleftarrows C_6H_5OH + KOH$$

but as there is a large excess of phenol or cresol present this will be negligible.

(*i.*) *The alkalinity of the soft soap preparations.*

B.P. soft soap should not give a reaction for free caustic alkali when an alcoholic solution of phenol-phthalein is dropped upon a fresh surface of the soap. The soap being moist, the absence of coloration indicates that their is no free alkali hydroxide, and also no free carbonate, borate, and silicate. [If the soap be somewhat dry, no coloration proves the absence of free hydroxide, but not necessarily of free carbonate, borate, and silicate.] A sample of Price's B.P. soap undried gave no evidence of the presence of free alkali.

Price's P.C. soft soap has been used in the above experiments for emulsifying the cresols instead of the B.P. soap on account of its cheapness. It gave, however, a pink coloration with phenol-phthalein, indicating the presence of free alkali.

The total alkali of these two samples was determined in the following way :—10 gms. of the soap were dissolved in hot water and excess of standard acid was added in known amount. The mixture was heated, stirred and then cooled in an ice bath, so that the fatty acids formed by the decomposition of the soap were solidified. They were filtered off and well washed with warm water, and the washings added to the filtrate. The combined filtrate was then titrated with standard alkali in order to determine the amount of acid unused in precipitating the acids and in combining with all the alkali present. This amount subtracted from the original amount of acid taken gave the quantity of acid required to unite with all the alkali—free and combined—present in the soap, and the alkali equivalent of this amount of acid was expressed in terms of potassium oxide, K_2O.

The total alkali content of B.P. soft soap was 8·23 per cent., this being the mean of three determinations.

The mean of three estimations of the total alkali content of P.C. soap was 9·47 per cent. The small difference in the alkali contents of the two soaps suggested that there was no advantage in employing the B.P. soap instead of the cheaper quality in the preparation of disinfectants.

The following calculation shows that this is so. Since the cresol suspensions prepared with P.C. soft soap contained 50 per cent. of the latter, their alkali content would be 4·73 per cent. Two per cent. dilutions with water of these cresols—*i.e.*, the strength commonly employed in the case of these disinfectants—would, therefore, contain ·09 per cent. total alkali.

If the entire alkali in the 2 per cent. dilutions were in the free state it would amount to about 1·50th normal, but only a fraction of the total alkali in a soap dilution is free, and in the presence of the cresols free alkali could not be detected with phenol-phthalien—*i.e.*, its concentration was less than $10^{-3.5}$ normal.

(*ii.*) *The alkalinity of the resin soap and castor oil soap preparation.*

In these preparations a known amount of alkali was introduced since the soap was synthesised from fat in presence of tar acid.

In the following table are given the alkali contents of the various preparations, which are classified below according to their formulæ :—

TABLE XVIII.

Formula.	Alkali-content % of preparation (KOH)	Alkali-content (KOH) of 2 % dilution.
I. Tar-acid 50, Castor-oil 20, Potash 5, Water 5	6·25 %	·125 %
II. Tar-acid 50, Castor-oil 35, Potash 8, Water 7	8 %	·160 %
III. Tar-acid 50, Resin 25, Potash 6, Water 5	7 %	·140 %

If the entire alkali in the 2 per cent. dilutions were in the free state it would amount to a concentration of from 1-33rd to 1-42nd normal, according to the formula of the preparation.

It was found, however, that the concentration of free alkali in the 2 per cent. dilutions of the castor oil soap and resin soap preparations only amounted to 1-170th normal. This strength of alkali can just be tasted and causes slight smarting when applied to the conjunctiva.

The dilutions with water of the various soap emulsions of the phenols, therefore, contained very little free alkali.

(*ii.*) *Toxicity.*

The tar acids exert a poisonous action when injected or taken orally. The minimum lethal dose of carbolic acid for man appears to be 15 gms., but fatal poisoning by phenol has been known to occur as a result of its application to the unbroken skin and also of its injection into the cavities of abscesses.

Tollens (Archiv f. Experiment. Path u. Pharm., Vol. 52, p. 220) showed that fatal doses of carbolic acid and of the isomeric cresols were nearly the same. His experiments were carried out upon cats, mice, and frogs.

He also showed that there was no difference between the toxicities of aqueous solutions and soap emulsions of phenol of the same strength. This was also true of the cresols. A cresol soap emulsion was, therefore, equal in toxicity to a phenol soap emulsion. For example, Liquor cresoli saponatus was just as toxic as the corresponding phenol preparation. Although the toxicities to animals of phenol and the cresols are equal, the latter are considerably superior to phenol in

*For practical purposes the cost of disinfecting Staphylococcus rather than B. typhosus in absence of organic matter have been compared on account of the higher resistance of the former organism to the action of disinfectants.

germicidal power. This means that the use of cresol preparations is less dangerous than that of phenol preparations, because more dilute solutions of the cresols can be used for disinfecting purposes.

The fact that the soap emulsions are no more toxic than aqueous solutions is also of practical importance, because of the advantages in employing the cresols in the emulsified state as disinfectants.

The poisonous properties of the cresols are also indicated by the fact that many cases of poisoning with lysol have recently occurred in Germany. Lysol has, however, been employed in the treatment of cerebro-spinal meningitis by the injection of its 1 per cent. solution into the spinal cord without any poisonous effects.

There are cases, too, that show that the cresols have not always so great a toxicity as carbolic acid. Thus, 4 ozs. of Jeyes' fluid and 9 ozs of creolin have been taken by the mouth and there has been complete recovery from their toxic effects after a period of unconsciousness. Such results are probably due to the de-emulsification of the higher tar acids in the stomach and their very slow absorption, owing to their slight solubility. Survival would have been unlikely in the case of carbolic acid.

The following information concerning the toxicity of the higher tar-acids is taken from Lewin's "Lehrbuch der Toxikologie, 2te Auft. 1897," pp. 215 and 361.

A dose of 2·5 gms. of creosote can kill cats and rabbits, the corresponding minimum lethal dose per kilogram body-weight being about 0·7 gm. The minimum lethal dose per kilo. of phenol and cresol is ·09 gm. for cats (Tollen's l.c.), so that creosote is much less poisonous than these substances. One fifth of a gram of creosote can kill pigeons, and dogs are killed by 6 to 7 gms. Cases are recorded in which a dose of 7 gms. of creosote has fatally poisoned a man, and doses beginning at 20 drops and progressively increasing to 1·8 gm. have killed a child.

Thymol is also poisonous, as 3 to 4 gms. of it can kill rabbits by injection and 5 to 6 gms. can kill the same when given orally. Since only a dose of 2½ gms. of creosote is necessary to kill rabbits, it is seen that thymol is less poisonous than creosote, and, therefore, much less poisonous than phenol and cresols.

Cases are recorded in which a dose of from 6 to 10 gms. of thymol has caused toxic symptoms, such as vomiting, collapse, etc., in man.

There is, therefore, some evidence showing that the higher tar-acids are less poisonous than phenol and the cresols. The dangers attending the use of the higher tar-acids are further decreased by their high germicidal power, which permits of their employment as disinfectants in small concentrations.

(iii.)—*The irritating properties of the tar acids.*

The concentrated preparations when spilt upon the skin are very caustic and produce bad wounds. Two per cent. dilutions of them in water, however, have no immediate irritant effect upon the normal skin, and at this dilution the preparations exert a reliable germicidal action.

Two per cent. dilutions when placed upon the tongue produce a stinging sensation.

0·25 per cent. dilutions of all the fractions of the tar acids produce slight stinging when placed upon the conjunctiva.

No striking differences could be made out between phenol, cresol, and a higher fraction of tar acid (No. ix.) boiling at 270°—286° C. in regard to their stimulating properties on the conjunctiva.

0·25 per cent. of phenol or cresol would not effect a reasonable germicidal effect, but 0·1 per cent. of the preparations of the higher fractions, with their much higher germicidal power, could be usefully employed. More concentrated emulsions are not suitable for sensitive mucous membranes.

(iv.)—*The action of the coal-tar disinfectants upon rubber.*

Pieces of rubber tubing in good condition were immersed for twenty days in 2 per cent. solutions of crude carbolic acid emulsified with resin and soft soap and of a higher tar-acid fraction, No. ix., emulsified with castor-oil soap.

The immersion in these dilutions had no effect upon the rubber other than that of softening, which was no greater than the softening effect produced by immersion in water for the same length of time.

It was noticed that the emulsions of the higher tar-acid in which the rubber had been immersed had considerably increased in opacity while control emulsions with no rubber had only decreased slightly owing to a small deposition of tar acid. This showed that some of the latter had been absorbed by the rubber, which would therefore behave as particulate organic matter in decreasing germicidal power.

The concentrations of the various preparations recommended for disinfecting stools can be recommended for disinfecting rubber instruments.

PREPARATIONS FOR DISINFECTION OF HANDS, INSTRUMENTS, &c.

The following preparations are recommended for disinfection of hands, instruments, pus, etc. They possess a reliable germicidal power, are readily manufactured, are considerably cheaper than phenol, and for the same germicidal power are less poisonous.

The fact that rise in temperature greatly increases germicidal power is of importance in practice. The concentrations recommended below for disinfection at ordinary temperatures may be halved if the disinfection is conducted at 35° C. or above.

(I). *Crude Carbolic Acid (Cresols), emulsified with Soft Soap.*

(Disinfectant E. Table III., Chapter II.

Crude carbolic acid, which consists chiefly of cresols, can be obtained from gas companies or disinfectant manufacturers.

Take equal weights of crude carbolic acid and soft soap (Price's P.C. quality); heat them together at 80° C. until all the soap is dissolved and filter the product. The preparation is a dark colored homogeneous fluid readily miscible with tap-water, forming a slightly turbid liquid.

Dilution recommended for hands and instruments	2%
Dilution recommended for disinfection of stools, pus, and other particulate organic matter, on the assumption that for one volume of stools, etc., at least two volumes of the diluted disinfectant be added	3%

The costs of materials to make one gallon of this preparation is 1s. 8d., and that of an equal amount of B.P. carbolic acid is 10s. The disinfectant is therefore much cheaper than phenol, and at the same is equal to it in germicidal power and is less poisonous.

This preparation is identical with the Liquor creosoli saponatus, official in the German, Japanese, and Swedish Pharmacopœias, and with the Cresolum saponatum of the Belgic and Swiss Pharmacopœias.

(II.) *Crude Mixture of Tar Acids from Creosote Oil, emulsified with Castor-oil Soap.*

(Disinfectant Z. Table XIV., Chapter IV.)

The "crude mixture of tar acids" contains cresols and their higher homologues, together with some carbolic acid, and is obtained by the extraction of creosote oil with soda and acidification of the extract.

Creosote oil is the fraction collected between 230° C. and 270° C. in the distillation of coal tar.

The "crude mixture of tar acids" can be obtained from gas companies and disinfectant manufacturers.

Take 50 parts by weight of this mixture of tar acids and 20 parts of castor oil (bleached and filtered oil of commerce), mix well and heat to 90° C., add a solution of 5 parts of potash in 5 parts of water, and heat and stir until a drop of the mixture gives a pink emulsion with tap water with no fatty scum.

The product is a dark-coloured fluid, miscible with water, giving a stable pink emulsion.

Dilution recommended for hands and instruments	1%
Dilution recommended for disinfection of stools, pus, and other particulate organic matter, on the assumption that for one volume of stools, etc., at least two volumes of the diluted disinfectant be added	1·5%

The cost of the materials to make one gallon of the disinfectant is 5s. and is therefore much greater than that of one gallon of the crude carbolic acid preparation (1s. 8d.). The crude tar-acids disinfectant is both in the absence and presence of organic matter, however, superior to the crude carbolic-acid preparation in germicidal power, so that the cost per germicidal unit of the two preparations is approximately the same. Furthermore, the disinfectant made with the crude mixture of tar acids is considerably less poisonous than the crude carbolic-acid preparation, and this advantage is increased by the fact that, owing to its higher germicidal power, the concentrations of the former preparation recommended to be used in practice are much smaller than those of the latter.

The emulsions of the crude tar-acids disinfectant with tap

water deposit a little tar acid on standing, so that it is important to employ its freshly-made dilutions or to shake thoroughly long-standing ones.

I desire to express my best thanks to Dr. C. J. Martin, F.R.S., for giving me the opportunity of conducting this investigation and also for help and advice in the course of the work, and to Messrs. Burt, Boulton, and Heywood for supplying samples of various tar acids.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

THE PAINLESS OPENING OF SMALL ABSCESSES.

ONE of the first lessons handed down to us from the days before anaesthesia is that an incision made from within outwards, after transfixion, is far less painful to the patient than an incision from without inwards, since the sensory nerve endings are not touched until their deeper connexions are divided. For the last two years, prompted by a personal experience, I have used this method so successfully in the case of small abscesses that it seems worth pointing out the small modification of the ordinary curved bistoury which experience very soon showed to be necessary for complete success. The ordinary bistoury carries too little curve, and is too broad in the blade, for the painless preliminary transfixion, which is an essential point. The accompanying sketch shows the shape of a

fully curved, narrow-bladed bistoury, which Messrs. Salt of Birmingham made for me in different sizes, which answers the purpose admirably. With this narrow sharp-pointed blade a small abscess can be transfixed practically without pain. As soon as the point reaches the abscess cavity pain ceases, and the point can be brought out through the skin at the required distance, and the incision completed by *slow* sawing movements with an absence of painful sensation which is often surprising. The incision, after transfixion, can of course be completed, if preferred, by one rapid stroke of the knife, but I have found practically that the procedure is less startling and more truly painless if the skin is divided quite slowly by short sawing movements.

H. CAMERON KIDD, F.R.C.S.

Bromsgrove, Worcestershire.

THREE OCCIPITO-POSTERIOR PRESENTATIONS IN THE SAME PATIENT.

DR. ILOTT'S note in the JOURNAL of June 1st, p. 1240, has suggested to me that the following case may be of interest. Two days ago I attended a woman, aged 26, in her fourth confinement. On arriving, I was told that she had been in labour for four hours, and the membranes had recently ruptured. I found the os fully dilated, the head low down, with the occiput behind. The pains were infrequent and feeble. I made her stand beside the bed for a few minutes until a stronger pain came on, when, with the nurse's help, she was placed on the bed, and the child was born during the same pain; the perineum was slightly torn. A partially adherent placenta led to rather severe haemorrhage till it was detached by hand.

I have attended her in each of her former confinements. The first was occipito-posterior, forceps being applied above the brim of the pelvis, and the extraction proving very difficult, the perineum being badly torn. The second child presented in the same way, and also required forceps. In the third labour the presentation was occipito-anterior, and forceps were used on account of primary uterine inertia; in this case also the placenta had to be removed by hand. The membranes had always ruptured before my arrival, so no attempt was ever made to turn the head round.

Banwell. KENNETH ANDERSON, M.B.

SALVARSAN.

A PATIENT of mine, wishing to have salvarsan, was given 0.6 gram; he at the time had a very troublesome cough which had lasted some months, although there were no serious physical signs. The day after the injection he did not cough and has had none since, and when I gave him a second intravenous injection a few days ago, an interval of six weeks between the two injections, he remarked that he had never felt better.

I watched the last batch of a series of about 600 cases, which have not been reported, treated by salvarsan, and the operator showed me a record of each case, pointing out that there had not been a single fatal result, and that only two cases—nervous cases—had slight reaction.

It was also pointed out to me that after an injection these cases looked many years younger. Owing to the great prominence given to the cases that have been fatal, I think that what appears to be a very useful remedy runs a great risk of neglect. I use the Allenbury apparatus invented by Mr. McDonagh.

Gillingham, Kent. IAN JEFFERISS.

ARTERIO-SCLEROSIS IN RELATION TO BLOOD PRESSURE.

THERE has been a great deal of discussion of late on the question of the relation of arterio-sclerosis and arterial atheroma to increased blood pressure. One school has maintained that the arterial pressure is independent of local changes in the artery wall; another has held, and sought to prove by many experiments, that thickening of the vessel wall will give a high reading when tested with the mercury manometer, quite irrespective of the true arterial pressure, which may, in fact, be below normal. I have for some years been uncertain as to which school was right, and I have sought to arrive at some definite conclusion as to which was the correct view. If a local arterial thickening will affect the reading of the pressure as given by the mercury manometer, then the latter instrument becomes practically useless to the clinician, for how is he to tell in a case giving a high reading whether it is due to a general increase of blood pressure or to local thickening or rigidity of the brachial artery? For several years I have sought an answer by taking a sphygmographic pulse tracing in all cases of high or low arterial pressure, but after prolonged trial and comparison of numberless cases, I have been forced to the conclusion that a sphygmographic pulse tracing is absolutely useless as a guide to arterial pressure. I have tracings of cases of only 90 mm. Hg pressure giving an exactly similar tracing to those of 200 or more. The old teaching that a marked tidal wave, with absent or diminished dicrotic wave, indicates a high arterial pressure is a myth, as is also the theory that an increased dicrotic wave, with an absence of the tidal wave, signifies a low blood pressure.

I have recently, however, had a case under my observation which conclusively proves that the mercury manometer does give a true reading of the arterial blood pressure, quite apart from any local thickening of the brachial artery. A man of 73 has given a pressure reading of 200 mm. Hg or more when tested by the mercury manometer for some years. His arteries are generally thickened, and his pulse feels poor and of low pressure to the finger, in addition a pulse tracing has always shown an absence of the tidal wave, and a high percussion stroke. I therefore naturally concluded that this was a case of low blood pressure, but giving a high blood pressure reading when tested with the manometer, owing to the thickening of the arterial wall. About a month ago, however, owing to increasing circulatory trouble, I advised my patient to undergo a course of Nauheim baths at home. The result has been that the systolic blood pressure has fallen from 220 mm. Hg to 120 in three weeks, while the pulse has increased in volume, and the tracing has become more normal.

I think this case conclusively proves that the high arterial pressure was due to arterial spasm, and not to the atheroma and sclerosis of the arterial walls. In future I shall therefore know that a high reading given by the syphgmomanometer means high arterial pressure, and not the presence of local arterial thickening, with low blood pressure.

Woking R. THORNE THORNE.

BREECH PRESENTATIONS.

In connexion with Dr. H. J. Ilott's case of three successive breech presentations in a married woman, aged 32, the following instance of four successive breech presentations may be worth recording: Mrs. H., married at the age of 20, had five children, all of whom, with the exception of the eldest, a boy, were breech presentations—two girls and two boys. All the children were born alive, and lived healthy lives for several years. The mother is a small woman, and the pelvis somewhat contracted.

Hove. W. Ainslie Hollis.

Reports

ON

MEDICAL AND SURGICAL PRACTICE IN THE HOSPITALS AND ASYLUMS OF THE BRITISH EMPIRE.

MACCLESFIELD GENERAL INFIRMARY.

A CASE OF RETROPERITONEAL HERNIA.

(By J. Hedley Marsh, Honorary Surgeon to the Infirmary.)

The patient in the following case, a man aged 34, was recently admitted under my care. He had previously been treated for "indigestion and duodenal ulcers," and was suddenly seized with violent abdominal pain, vomiting, and collapse.

State on Admission.—He was admitted within four hours of the onset, and was then vomiting incessantly, had much pain all over the abdomen, and the right rectus was markedly rigid. He had subnormal temperature and pulse 140 a minute. He was obviously suffering a serious abdominal catastrophe, probably in the right half of the abdomen.

Operation.—I operated at once, and opened the upper half of the abdomen by a right paramedian incision, displacing the rectus outwardly. The stomach and duodenum were carefully examined for perforation and found normal; the stomach was much distended, and a large quantity of clear, odourless, serous fluid escaped from the abdomen. The incision was extended downwards and the appendix sought for, but it could not be readily found. On tracing down the anterior longitudinal band and making firm traction upwards on the caecum, the appendix suddenly escaped from a pouch lying behind the caecum, and a mass was then seen projecting behind the caecum and pushing the ascending colon outwards and lifting up the mesentery of the lower ileum at its insertion into the iliac fossa, where it passes to the postero-internal aspect of the caecum and colon. Several feet of small intestine, probably jejunum or upper part of ileum, were slowly withdrawn in a collapsed state from a sort of peritoneal tube which extended upwards to the right kidney.

Result.—The opening was dealt with and the abdomen closed. The man made an uninterrupted recovery and is now in robust health.

The drawing on page 116 of Mr. Moynihan's book—*Retroperitoneal Hernia*, second edition—exactly illustrates the condition found excepting that the appendix in this case was tucked away in the pouch. I am well aware that genuine cases of pericaecal hernia into this particular pouch are considered to be rare.

The history and onset misled me into opening the abdomen high up, but the paramedian incision, which I frequently find excellent, permitted rapid, safe, and efficient extension downwards with no risk of subsequent yielding of the abdominal wall.

Although a considerable number of cases of intestinal obstruction and "acute abdomens" are annually dealt with in our infirmary I have been unable to find any previous record of what I believe to have been a hernia into the retrocolic fossa.

Sir William Macewen, quoted by Moynihan, describes three pericaecal fossae—ileo-colic, ileo-caecal, and sub-caecal or retrocolic. Moynihan points out that if the posterior surfaces of the caecum and ascending colon are covered by peritoneum and are free, these secondary retrocolic fossae are absent.

An International Congress on Eugenics is to be held in London in July next (24th to 30th). The work of the Congress will be distributed among four sections as follows: (1) Biology; (2) sociology and history; (3) legislation and demography; (4) practical applications.

British Medical Association.

CLINICAL AND SCIENTIFIC PROCEEDINGS.

SOUTH WALES AND MONMOUTHSHIRE BRANCH.

Cardiff, December 14th, 1911.

Dr. Biddle, President, in the Chair.

Tuberculosis Among the Poor.

Dr. Camac Wilkinson, who read a paper on this subject, said he wished to appeal primarily to those in general practice, who had too many opportunities of observing the misery and suffering this disease brought in its train. Hitherto the medical practitioner had allowed himself to become obsessed with the idea that little or nothing could be done for these victims of consumption except in sanatoriums. A very large number of cases could be successfully dealt with by himself providing he had made himself master of the use of tuberculin in diagnosis and treatment. This system of treatment greatly benefited the patient and should also benefit the medical man. Not very long ago hundreds of thousands of pounds were spent upon the exploitation of the opsonic index in the treatment of tuberculosis—too often spent without any result commensurate with the cost of the system. Again, millions of pounds had been spent upon sanatorium treatment, too often with very partial success. Fortunes had been wasted on quack remedies. If large sums of money had been spent in the past upon these systems which had been absolute or relative failures, it was certain that money would be freely spent upon any system which proved to be superior to those that had virtually failed. Here in Wales, through the energy and generosity of Mr. David Davis, M.P., a large amount of money, nearly £200,000, had been collected for the special purpose of dealing with this problem in Wales—an object so meritorious that the scheme had been chosen as the means for perpetuating the memory of King Edward VII, the Peacemaker. It was to be hoped that this splendid amount of money would be spent so as to bring the greatest good to the greatest number. If this were the main object of the scheme it was certain that the money should not be devoted to sanatoriums. Let them suppose that Wales was ready to devote £250,000 to the problem of dealing with tuberculosis. The local colouring of their illustration would help the argument. In Wales there were about 5,000 deaths each year from tuberculosis, and there were probably at least 20,000 persons needing help under the Insurance Act. From the Insurance Act Wales would be entitled to £80,000 for buildings and about £50,000 a year for maintenance. Thus about 400 beds would be provided which could deal with about 800 cases—800 cases out of 20,000 needing treatment! Thus provision was made for less than 10 per cent. of the sufferers, and the money, being spent, nothing could be done for the 90 per cent. of sufferers outside the pale of grace. Let them consider, too, the share that thus fell to the doctor, upon whose work must depend the success or failure of treatment. Certainly not more than ten doctors would be required to look after 400 beds. Suppose each doctor received £250 a year—£2,500 was the doctors' share by this scheme; £50,000 was provided each year for maintenance, out of which the doctors, who did all the work, received no more than £2,500. Now let them consider the cost of tuberculin dispensaries, the number of patients that could be properly treated at the dispensaries, and the share that the doctors received for applying the treatment. He had calculated that it was quite easy to treat 250 cases a year at a tuberculin dispensary at a cost of £750 a year, of which £400 or £500 a year was paid to the doctors for medical services. Accordingly, 20,000 cases could be treated for about £60,000 a year, of which £40,000 would be the doctors' share for special medical services. By this scheme, not 10 per cent., but every man, woman, and child in Wales could be treated for about the sum which was allowed in the Insurance Act for the treatment of tuberculosis, and the individual results would be better. It was, therefore, reasonable to expect that the authorities with whom the decision rested would choose the scheme of tuberculin dispensaries, which could treat *all* persons suffering from consumption in Wales at no greater cost than that

necessary for the treatment of 10 per cent. of the cases by means of sanatoriums, and at the same time secure better individual results. Medical men should certainly support this scheme—first, because it was the best for the patients, and secondly, because the doctors' share in tuberculin dispensaries was £40,000 a year, while under sanatoriums the doctors' share was no more than £2,500 a year. However, he urged tuberculin dispensaries as infinitely the better scheme because practically all the cases could be treated with satisfactory results. All that required to be proved was that tuberculin treatment was at least as successful as sanatorium treatment. That was the problem he had attempted to solve by using tuberculin as the essential remedy, and practically ignoring the existence of sanatoriums. The problem could not be solved until the results of tuberculin treatment, *per se*—that was to say, as distinct from the results of sanatorium treatment—had been reviewed and judgement given. In Germany and America the value of tuberculin treatment, quite apart from sanatoriums, had not been thoroughly and deliberately investigated. For fifteen years he had devoted himself to the consideration of this very problem, and he had shown, not merely by the extraordinarily good results achieved in the first stage, but also by the results obtained in the later stages of the disease, even when severe laryngeal complications existed, that the results of tuberculin treatment were superior to any hitherto published results of sanatorium treatment. In his book he had said that the worse the prognosis the better the remedy that could save or prolong life. If successes could be secured in the later stages of this disease with tuberculin—and he had shown this to be possible—it was easy to secure successes in the early stages. One knew that many considered that sanatorium treatment should be applied mainly to early cases. But if, as he maintained and was ready to prove, tuberculin treatment yielded more satisfactory results at a far less cost, what sense could there be in preferring sanatoriums as a means of dealing with the disease among the poor? For evidence in support of this rational plea for tuberculin dispensaries he could best refer to his results published in his book, *Tuberculin in the Diagnosis and Treatment of Tuberculosis*. The striking popularity of the system among the patients themselves, who should be fair judges of the value of the method, was evident, not only at the dispensaries in London, where there were several, but at Portsmouth, at Inverness, at Irvine, and even in Cardiff itself, where Dr. Fairfield Thomas was carrying on this method of treatment. He hoped that the general practitioner would see that this method of treatment should naturally be part of his own work. It was quite possible for any medical man to learn enough of the system if he would attend a properly organized tuberculin dispensary for two or three months. If he did this he would increase his usefulness in the community, and money which might otherwise be wasted upon sanatoriums, and sometimes even upon quack remedies, would become instead the well-deserved reward of his own satisfactory and successful work. Thus tuberculin dispensaries were not merely for the purpose of treating the poor who could not afford to pay doctors, but the means of instructing medical men in the use and methods of tuberculin treatment in private practice. It was therefore the duty of the medical profession in Cardiff to organize, so as to establish tuberculin dispensaries in that town for the treatment of the poor. Then, when the Insurance Act was put into effect, medical men would be in a position to claim their large and rightful share of the money which would be devoted to the best method of dealing with tuberculosis among the insured. It would be to the benefit of the victims that they should receive treatment at tuberculin dispensaries, and by this system alone could the ordinary practitioners of medicine receive the share that they might justly claim, *if they were thoroughly competent to carry out tuberculin treatment*. Let the medical profession render themselves fit and ready to seize the opportunity which was sure to come.

UNDER the will of the late Mr. R. J. Winsor the London Hospital receives a bequest of £1,700 to be used primarily for the treatment and care of any patient injured through experimental work with *x* rays or radium; and, secondarily, for the promotion of treatment by these means.

Reports of Societies.

EDINBURGH MEDICO-CHIRURGICAL SOCIETY.

Wednesday, June 5th, 1912.

MR. J. M. COTTERILL, President, in the Chair.

The Teeth at School Ages.

MR. L. STORROW SHENNAN, L.D.S., in a paper on the care of the teeth and the health of children at school ages, said that dental defects were present in upwards of 80 per cent. of the school population. These dental defects had a bearing on many diseased conditions—oral sepsis, alveolar abscesses, tonsillar inflammations, gastro-intestinal disturbances, neuralgia, and even epilepsy. While tuberculous invasion via the teeth had not as yet been demonstrated, the chronic inflammation of the cervical glands associated with dental caries was a factor in that invasion. Dental caries, too, had been proved to have a deleterious effect upon school attendance and work. Much of this dental disease was preventable, and, in view of its many evil consequences, the dentist could regard his work as an important branch of preventive medicine. Of late years much attention had been directed in this and other countries to the problem, and he gave a sketch of the provisions in various European centres for the examination and treatment of dental defects in school children of the poorer classes. In Great Britain the Education Act only imposed inspection, and did not provide for treatment. He gave his own experience of eighteen months at the Dunfermline Carnegie Trust School Dental Clinic. With a weekly attendance of twelve hours, he treated 1,400 children in the year, and, using this experience as a basis, some 20 dental clinics would be required for an educational centre like Edinburgh. He suggested as a subject for discussion the provision of school dental clinics as a solution of the problem of dental caries. Dr. GUY, L.D.S., said the need of attention was unquestionable, but the question was largely an economic and administrative one. With regard to Mr. Shennan's experience at Dunfermline, he wished to know the number of permanent fillings per annum and the total cost of the clinic. He feared that dental clinics would break down because of finance; and in addition their effect in removing teaching material from the dental teaching hospitals would be injurious. Dr. J. RITCHIE (Primus) related his experience as medical officer to a school. Dental caries was the commonest defect, and in a large majority of cases where defects had been pointed out to the parents nothing had been done; where the defects had been remedied there was a noticeable improvement in the general appearance and condition of the boys. He was in favour of using already existing institutions in dealing with the problem. Dr. MACRAE TAYLOR said he had examined the teeth of 300 volunteers some years ago, and less than 6 had a good set of teeth. He called attention to injurious effect of sweets and chocolates on the teeth, and for children advised ending the last meal with a biscuit and apple. Dr. J. S. FOWLER said it was easy to condemn the soft foods given to children after weaning, but by no means easy to frame the details of a diet which would encourage mastication and prevent caries. Dr. T. SHENNAN said it was too often forgotten that all children did not start with an equal equipment in enamel and cement substance, and that therefore the same food might be harmful to one child and innocuous to another. It was curious to know that the best chocolates, retaining the original oil of theobromine, were more injurious to the teeth than the cheaper varieties. Dr. JAMES SMITH showed how with the funds at disposal it was impossible for the School Board of Edinburgh to establish dental clinics on an effective scale. In this they must restrict their efforts to the necessitous child. Dr. J. H. GIBBS, L.D.S., said the problem was unmanageable on the lines indicated by Mr. Shennan. The percentage of caries in civilized countries was as high as 95 per cent. Not only was money wanting to deal with it, but there were not enough men, trained dentists, to cope with it. It could only be solved by prevention. In savage races the percentage of caries was only 5 per cent., and this was due to their more physiological diet. The prevalence of caries among civilized peoples was due to faulty diet in early childhood, and especially to excess of sugar and soft, starchy foods. After

weaning, the child should get its meals as hard and dry food, followed by liquid. An apple given at night performed the functions of toothbrush and mouth wash.

Acromion Process of the Scapula.

Mr. J. W. STRUTHERS showed a series of skiagrams of the shoulder to illustrate the ossification of the tip of the acromion process. This remained cartilaginous until about the fourteenth year. Several centres of ossification appeared from the fourteenth to the sixteenth year, but the tip did not become united to the rest of the acromion process until about the twentieth year. In a few rare cases the tip remained permanently separate, and then exactly resembled in its skiagraphic picture the appearance of fracture. In these cases the fact that the condition was bilateral distinguished it from fracture. He showed two such cases of bilateral separate acromion processes in patients aged 40 to 50 years in whom there was no history of injury or disease. Apart from the anatomical interest of the condition, it might have medico-legal importance in questions of compensation; and where the *x*-ray picture of an injured shoulder showed an apparent fracture of the tip of the acromion a photograph of the other shoulder should be taken to exclude this bilateral anatomical irregularity.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION OF MEDICINE.

Friday, May 24th, 1911.

Sir JOHN MOORE, President, in the Chair.

Oesophagismus in a Child.

Dr. GEORGE PEACOCKE recorded a case of oesophagismus in a child aged 3, who was admitted to hospital on account of vomiting, which had started after a severe attack of whooping-cough, and had been more or less persistent for the past eighteen months. A brother had died, when 5 years old, of vomiting, which had commenced when 3 months old, and had, with short intervals of freedom, continued through life. The child appeared well nourished, and nothing abnormal could be detected on examination except a loaded colon, which was easily relieved by enemata. Vomiting would occur after a few spoonfuls of food were taken, and the remainder of the food might be retained. Some days the vomiting was more severe than on others, and the character of the food seemed to make little difference. *X*-ray examination after a small bismuth meal showed the oesophagus full, none of the meal having reached the stomach. Examination with the oesophagoscope did not reveal any growth or stricture. Dr. MCVITTIE said he had met with a similar case in an adult. He submitted a rough sketch of Russell's dilator, an instrument which, he said, he had found useful in his patient, who was a man aged about 40. The oesophagus was capable of containing from 6 to 7 oz. He passed the Russell's dilator, and trained the patient to do so himself after each meal. The patient gradually got better, and finally the condition disappeared altogether. Dr. CAHILL said that in a similar case he had devised a dilator himself which he found produced a good effect. He suggested that if Dr. Peacocke's patient were fed for a time by stomach tube good might be done.

Meningitis due to Bacillus Typhosus.

Drs. O'CARROLL and PURSER gave an account of a boy, aged 9, who had been admitted to the Hardwicke Hospital as a case of typhoid fever. Widal's reaction was obtained on the fifth day of the illness. None of the usual signs of typhoid were present—no rose-spots, no enlargement of spleen, no diarrhoea. On the other hand, the mental condition was most suggestive of meningitis, and headache, retraction of the neck, and Kernig's sign were marked. Typhoid bacilli were grown in pure culture from the cerebro-spinal fluid, which contained as well 1,100 leucocytes per c.mm.; of these, two-thirds were polynuclear and one-third mononuclear cells. The patient died three weeks after onset of illness. The membranes over the convexity of the brain were covered with a purulent exudate. Over the occipital lobes the exudate was haemorrhagic. *Bacillus typhosus* was separated in pure culture from the exudate. The bacteriological examination was made by Dr. T. A. Hughes, I.M.S. There was some slight congestion of the lymphoid tissue in the intestine, and in the right lung were three small patches of bronchopneumonia. The other organs, including the spleen, were normal. The PRESIDENT said that the patient's chart showed that at two periods in the fever there was a remarkable slowing of the pulse, which was familiar in cases of meningitis. The case illustrated what he had long felt—namely, that any abnormal localization in a specific poison is bad. If enteric localized in the lungs or brain it was bad. The same remark, he said, applied to pneumonia, which if accompanied with severe cerebral symptoms was very likely to prove fatal.

NORTH OF ENGLAND OBSTETRICAL AND GYNAECOLOGICAL SOCIETY.

AT a meeting on May 17th Dr. E. C. CROFT (Leeds) recorded: (1) Two cases of *Uterus didelphys*. In one case each of the two sides of the uterus had been pregnant in turn. During the first delivery the septum forming a double vagina was partially ruptured; its remains were removed about the sixth month of the second pregnancy, which was not interrupted by the operation. In the other case pregnancy also occurred, but abortion took place about the third or fourth month. The abortion was associated with pyosalpinx of gonorrhoeal origin on the side opposite to the pregnant half of the uterus. It was as a result of an operation necessitated by the pyosalpinx that the didelphic uterus was discovered. (2) An instance of *Absence of the Fallopian tubes*. The condition was revealed by an exploratory laparotomy undertaken in consequence of persistent pain in the right ovarian region. The left ovary consisted of a small, slightly elevated patch of ovarian tissue lying flat on the posterior layer of the broad ligament, with no development of a mesovarium. On the right side the condition was similar, but a cyst about the size of a large plum had developed in the ovarian tissue. Dr. HELLIER (Leeds) narrated the case of a primipara, aged 18, who was sent with *Acute inversion of the uterus* to the Leeds Infirmary from a distance of 36 miles. On the fourth day after her delivery she was blanched and very ill, the pulse varying from 128 to 140, temperature about 102.5°. The vagina was occupied by the fully inverted uterus, which felt like a large polypus with a pedicle 2 in. thick. The endometrium had a grey sloughy appearance, and the vagina was full of dirty brown offensive discharge. A small portion of placenta remained adherent to the uterus. After the patient had been anaesthetized with hedonal, and the vagina and uterus thoroughly disinfected with lysol, the inversion was reduced by manual taxis after about fifteen minutes' perseverance. At first the uterus seemed so large and the pedicle so small and unyielding that reduction seemed unlikely to be accomplished without resort to a repositor, but at the end of the time mentioned it went up somewhat suddenly and easily. As the uterus was already in a condition of septic endometritis daily irrigation was ordered for the uterine cavity. Convalescence was retarded by a slight degree of phlebitis in the left leg, but this soon subsided, and she was discharged cured. Dr. OLDFIELD (Leeds) related: (1) A case of *Tetanus occurring twelve days after abortion*. Antitetanic serum, given subcutaneously, and repeated in large doses, gave no relief. Chloretone and other vaunted curative drugs had no effect, and the disease progressed until the patient was unable to swallow, had general convulsions, became enfeebled, and looked like dying very soon. By spinal puncture a few drachms of cerebro-spinal fluid were withdrawn, and 10 c.cm. of antitetanic serum injected. Within twenty-four hours the patient could open her mouth, and in forty-eight hours she had little or no spasticity anywhere. She made a complete and rapid recovery. (2) A case of *Gartnerian cyst* in a woman aged 35, who had had an abdominal tumour for several years. The symptoms were pain and menorrhagia and relative sterility. The tumour was thought to be a fibroid, but found to be a slightly distended

broad ligament cyst. It contained blood-stained fluid and a large quantity of blood-stained friable solid growth. It was adherent to neighbouring structures, but could be enucleated except from uterus near the cervix, where it was firmly adherent by a broad band of fleshy tissue. Sections of the solid growth showed an adenoma-like structure, the cells being long and cylindrical, and the interstitial tissue densely infiltrated with small round cells.

GLASGOW OBSTETRICAL AND GYNAECOLOGICAL SOCIETY.

AT a meeting on May 22nd, Dr. A. W. RUSSELL, President, in the chair, Dr. RUSSELL recorded a case of chronic ovarian pain treated by *Oöphorectomy*. The patient, aged 37, subsequent to the birth of a healthy child, now aged 10, had two miscarriages, and was curetted after the first, but not after the second. She had abdominal pain and ill health, which were assigned to these incidents. Tamponnage, douching, pessaries, applications of iodine, holidays in the country, etc., were tried, with no beneficial result. No gross pelvic lesion could be made out on examination. There was extreme pain and tenderness over the ovarian regions. Nothing further was discovered by an examination under an anaesthetic. Her condition was so serious that a radical operation was performed. The ovaries showed a condition of cystic sclerosis. It was now three years since the operation, and the patient was quite well. Such cases seldom responded to medical treatment, though this should be tried. Dr. NIGEL STARK advised caution in removal of the ovaries. Dr. SHANNON always tried prolonged medical treatment first. Dr. MACFARLANE stated that in 180 cases in which he had performed oöphorectomy, 85 per cent. of the patients stated they were quite cured. Dr. DUFF said it must not be forgotten that constipation caused pain over the ovarian region. Dr. W. D. MACFARLANE, junior, described a case of *Pyelitis complicating pregnancy*. The patient from early in pregnancy complained of pain in the back and vomiting, lasting all day. Four weeks ago, when the patient was four and a half months pregnant, the condition became more severe. She was then admitted to hospital with a pulse of 120, temperature 100°, and a considerable amount of pus in the urine. This was found to contain *B. coli* and *B. grünthal*. Vaccine treatment was tried without any good result, and, as the patient was getting worse, the uterus was emptied. The progress thereafter was good. The speaker was of opinion that vaccine treatment was useless in acute cases, but very good results were obtained in those which were not acute. Over 70 per cent. of such cases went on to full term, and the risk of infection was slight.

NOTICE has been given by the Royal Society of Medicine that next Friday, June 21st, is the last day on which nominations of candidates for the council in addition to those already nominated by the council can be received. Nominations made by the council are as follows: *President*, Sir Francis H. Champneys, Bart.; *Honorary Treasurers*, Sir William S. Church, Bart., K.C.B., and Sir Henry Morris, Bart.; *Honorary Librarians*, Mr. Rickman J. Godlee and Dr. Norman Moore; *Honorary Secretaries*, Mr. H. S. Pendlebury and Dr. E. Farquhar Buzzard. Other members of council: Drs. W. P. Herringham, A. Latham, G. Newton Pitt, Sir James Reid, Bart., Sir Almroth Wright, F.R.S., and Messrs. Clement Lucas, D'Arcy Power, Charters Symonds. The council is completed by those who have been elected presidents of the various sections by the members thereof and in consequence are vice-presidents of the society and therefore *ex officio* members of council. The elections and annual meeting take place on Monday, July 1st.

IN his report for the six weeks ending May 25th, the Medical Officer of Health for the City of London mentions that for some time past tuberculous lesions have been found in Argentine beef certified by the Argentine authorities as sound. On their attention being drawn to the matter these authorities have undertaken to increase the number of inspectors, and have also arranged for a number indicating the name of the inspector to be attached to each carcass, so that if the latter should be found unsound the responsibility in the matter may be brought home to the person concerned.

Reviews.

THE DICTIONARY OF NATIONAL BIOGRAPHY.

THE first of the three volumes which are to constitute the second supplement of the monumental *Dictionary of National Biography*[1] has just been issued by Messrs. Smith, Elder and Co. It contains the lives of men born within these islands who died between January 22nd, 1901, and December 31st, 1911, and whose names begin with one or other of the first five letters of the alphabet. There are some thirty-eight names of medical men who have distinguished themselves either in medicine or in some allied science or calling to so notable a degree that Sir SIDNEY LEE has been able to give them entrance to this national Valhalla during these past eleven years. To be strictly accurate, there are thirty-seven medical men and one medical woman. The woman is Elizabeth Blackwell, "the first woman doctor of medicine," who, born in England, was educated in America, practised medicine there, spent the last years of her long life (1821–1910) in the south of England, and now lies buried at Kilmun, in Argyllshire, which she called "the most beautiful Campo Santo I know except Genoa." On the tombstone she is remembered as "the first woman of modern times to graduate in medicine (1849), and the first to be placed on the British *Medical Register* (1859)"; and this is a more accurate description than that of "first woman doctor of medicine" given in the *Dictionary*.

Turning now to the medical men, we find that whilst the majority of them gained fame in the spheres of medicine or surgery, not a few abandoned more or less completely these callings to cultivate other fields of knowledge or of usefulness. One, for instance, is designated "philanthropist," and rightly so, for it is Dr. T. J. Barnardo who is thus named; another (Dr. J. H. Bridges) appears as "positivist philosopher"; and another (Dr. J. E. Dutton) as a "biologist." With regard to Dr. Dutton, it may be pointed out that his was the shortest life of all those recorded here, for he was born in 1874 and died in 1905; yet he discovered the first trypanosome in man, made other important contributions to tropical medicine, and met his death in the course of his experiments. We wish there had been devised some other mode of designating this young martyr to the study of tropical medicine; but we suppose "biologist" must be allowed to stand in the absence of such a term as "tropicalist," which should more accurately describe his life-work.

It is interesting to note the hobbies which medical men have conjoined with their more purely professional work; thus, one man is described as "Canadian physician and poet," another as "physician and Chinese archaeologist," another as "lunacy specialist and antiquary," and yet another as "physician and anthropologist." One only appears as "homoeopathist," and his name is more familiar to most of us in connexion with a very handy form of sphygmograph than as a follower of Hahnemann. It does not seem to us, hurriedly turning over the pages, as if the surgeons were as numerous as the physicians; but there are many letters of the alphabet to come, and in the remaining two volumes of the *Dictionary* we may find more of our surgical brethren entering the Valhalla. There are three obstetricians and gynaecologists, to wit, Lombe Atthill, Robert Barnes, and C. J. Cullingworth. Eight—five physicians and three surgeons—bear titles.

An analysis of the birthplaces of the 38 shows that 23 were English, 6 Scottish, 6 Irish, 1 was born at Gibraltar, 1 at the Cape, and 1 in Germany. When, however, we search out in which of the three countries they received their medical education, we learn that 19 qualified or graduated in England, 12 in Scotland, 4 in Ireland, and 3 elsewhere (New York, Bombay, Montreal); it ought to be stated, however, that some gained medical qualifications in more than one of these countries, and that one graduated first in Germany and later in London.

London and Edinburgh are a long way ahead of all the other medical schools in the number of men educated within their walls, the former having about fourteen and the latter about nine, one or two more being shared.

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[1] *Dictionary of National Biography*. Edited by Sir S. Lee. Second Supplement. Vol. I. Abbey—Eyre. London: Smith, Elder and Co. 1912. (Roy. 8vo, pp. 650; cloth, 15s. net; half morocco, 20s. net.)

The longest life was that of Sir John Thomas Banks, born either in 1812 or 1815, who died in 1908; both his father and his grandfather were surgeons in their day, and his father was the youngest of a family of twenty-four. He is described as having been the virtual head of the profession in Dublin and Ireland. In comparison with the lives of men of other professions and callings, those of medical men receive a fair share of space in the *Dictionary*. Dr. Brockbank, of Manchester, who has between four and five pages for his life of Sir William Henry Broadbent, does justice to his work as general physician and neurologist, and in promoting the campaign against tuberculosis. Of Sir William Banks, of Liverpool, Mr. D'Arcy Power justly says he deserves recognition as a surgeon and great organizer, instancing his advocacy, in the face of strenuous opposition at a time when most surgeons were contented with a partial operation, of the modern extensive operation with removal of the axillary glands for cancer of the breast, and his services in building up the medical school in Liverpool and bringing about the erection of the great infirmary of that city. Altogether, there are 500 names in the volume, and 644 pages. The largest space of all (64 pages) is given, and rightly, to the life of King Edward VII, and was not he an Honorary Fellow of the Royal College of Physicians, and did he not say the memorable words, "If consumption be preventable, why is it not prevented"?

DIAGNOSIS OF GASTRIC DISEASE.

A good many books have been published on the methods of examining the stomach, but none is better than that of Dr. Emil Schuetz.[2] He admits that there are many dealing with the subject, but claims that during the last few years there have been so great changes that his book may be justified, especially as in it he gives the results of his personal experience and opinions, based on more than thirty years' practice in this department of medicine. He thinks that the chemical examination of the stomach contents, in spite of criticism, still holds its place as a valuable aid to diagnosis, but advises that more attention should be paid to palpation, which has, he thinks, been too much neglected. Like everyone else, he recognizes that the Roentgen-ray examination has come to be one of the most important means at our disposal for exploring the stomach; on the other hand, he regards gastro-diaphany, gastroscopy, the quantitative estimation of acidity, and the various chemical tests for motility as being only of restricted use. He thinks the biological diagnosis of cancer is destined to play a large part in the future, and for that reason he supplies a chapter upon this subject. By this he means such methods as that of Emerson and others who have asserted that the stomach contents of cancer contain a proteolytic ferment or a substance which possesses the power of splitting off peptids. He describes the method at some length, but adds the criticisms of many subsequent writers who have found it either misleading or uncertain. Another method is that based on the presence of haemolytic substances in the cancerous stomach, a method described by Graefe and Roemer; its diagnostic value is diminished owing to the difficulty of excluding the regurgitation of haemolytic bowel contents. Thirdly, Maragliano found that when animals were inoculated with the wash-water of stomach cancer their blood serum precipitated in the presence of cancerous secretion, and this method, as modified by him, seems to have given good results to some observers. Livierato has also succeeded in getting positive results with extract of cancer in the fixation of the complement, there being complete arrest of haemolysis in all cancerous cases, while with the normal stomach juice haemolysis was invariable. The same author also describes an anaphylactic action of the cancerous stomach juice. He found that normal gastric juice had no poisonous effect when injected subdurally into rabbits in doses of 0.1 c.cm., but that cancer juice was very toxic and often fatal. When the dose was reduced to 0.05 c.cm. it was inert, but if the rabbit had been sensibilized with a watery extract of cancer 0.05 c.cm. of cancer gastric juice produced typical anaphylactic effects, while, on the other hand, gastric juice from a case of simple ulcer of the stomach had no effect in ten times the dose. There are several other methods which may be included in the biological tests for cancer. The author admits that so far the soundness of none of them has been proved, but he is sanguine that something will come of them, and, as early diagnosis of cancer of the stomach is greatly to be desired, we may all hope he is right. We may add that the book is not merely a handbook to the examination of the stomach, but is a guide to the differential diagnosis of the various diseases of that organ.

The volume on the diagnosis and treatment of the diseases of the stomach and intestine,[3] by Dr. Walter Zweig, of Vienna, has reached a second edition. It was reviewed by us five years ago (July 27th, 1907, p. 205). Since that time considerable progress has been made in this department of medicine, and Dr. Zweig has done full justice to it by revising the chapter on the physiology of digestion and by adding new sections on the nervous supply of the viscera, on chlorine-free diet, enteroptosis, ulcerative colitis, sigmoiditis and sphincteric proctitis; in an appendix he has given an account of the simple methods for chemical and microscopical examination of stomach contents and faeces which are carried out in his laboratory, and are designed especially for the use of the busy practitioner. The book is on the whole a good one, and contains a well written, abundantly illustrated, and clear account of its subject matter. We think, however, that it is misleading to say that the healthy fasting stomach contains microscopical remains of food and living bacteria, and we do not understand why on p. 461 it is directed that Ewald's test breakfast should be removed after three-quarters of an hour, and on p. 462 after one hour; it is important that there should be uniformity in this matter as the results are empirical and can only be comparable *inter se* if they are carried out in an identical manner. Nor do we agree that it is a good test of stomach motility to estimate by measuring in a graduated glass the amount of stomach contents recoverable by the tube at the end of an hour, as the amount obtained depends to such a large extent upon varying circumstances. It is better by far to give a larger meal and expect to find the normal stomach empty at the end of six hours, judging any defect of motility by the greater length of time it takes to get rid of its contents. In the examination of the faeces the author follows Schmidt and Strassburger, but he regards the microscopical examination as the most valuable part of their methods. He attaches less importance to the chemical examination except in looking for blood, and he thinks the fermentation methods suggested by them not very feasible in ordinary practice. The book bears the marks of being based upon a wide experience.

Dr. G. Lefmann's little book on the examination of the stomach by test meals has special reference to the diagnostic value of the method, and is illustrated by many clinical observations and a certain number of experiments.[4] The author's conclusions are that, with regard to the chemical examination of the stomach contents, only serious departures from the normal are of any diagnostic significance, as the amount of secretion depends upon so many factors, and the variations seen in the same individual under different circumstances are so great. In no case must these results be relied on by themselves. There are no means of distinguishing between secretory changes due to functional nervous derangements and those due to organic disease, and there are no absolutely characteristic chemical changes in cancer. The same is also true of the results of the various tests of motility—that is to say, although stasis may be present, we have no means of knowing by these tests alone to what the stasis is due. The two methods should be combined whenever possible with the use of the *x* rays, the value of which in the diagnosis of stomach diseases is becoming more and more appreciated; but the last means are not always available, and as many practitioners will have to do without them it is just as well that they

[2] *Die Methoden der Untersuchung des Magens und ihre diagnostische Verwertung.* Von Dr. Emil Schuetz Berlin und Wien: Urban and Schwarzenberg. 1911. (Sup. roy. 8vo. pp. 248; Abbs. 29. M. 9, Geb. M. 10.)

[3] *Diagnose und Therapie der Magen- und Darmkrankheiten.* Von Priv. Doz. Dr. Walter Zweig. Zweite, vermehrte Auflage. Berlin und Wien: Urban and Schwarzenberg. 1912. (Imp. 8vo, pp. 517; Textabs. 36; Tfl. 1; Mk. 14; Geb. M. 16.)

[4] *Die Funktionsprüfung des Magens nach Probekost.* Von Dr. G. Lefmann, Spezialarzt fuer Innere Krankheiten in Heidelberg. Mit 8 Abbildungen im Text. Wiesbaden: J. F. Bergmann; Glasgow: A. Bauermeister. 1911. (Sup. roy. 8vo, pp. 105. 2s. 6d.)

should understand the true value of the test meal methods. We are on the whole disposed to agree with Dr. Lefmann in his criticisms, especially with regard to the chemical examination of the stomach contents, which are of considerable interest. On the other hand, the existence of stasis—if we define that as meaning the presence of the remains of food in the stomach six hours after a small meal, is of definite significance, always implying the presence of pyloric obstruction, and therefore constituting a sound basis for surgical interference.

EXPERIMENTAL PSYCHOLOGY.

DR. C. S. MYERS has brought out a second edition of his *Textbook of Experimental Psychology, with Laboratory Exercises*.[5] He deals with the sensations, the specific energy of the sensations, statistical methods, reaction times, memory, muscular and mental work and effort, local signature, sensibility and sensory acuity, experiences of identity and difference, binocular and binaural experience, the visual perception of size and direction, time and rhythm, feeling, attention, thought, and volition. As the author says, "experimental psychology is not engaged merely with general problems—for example, studying thresholds, determining the scope of attention, or fixing the limits of memory. It has also to determine how such 'properties' of the mind are affected in any given individual by different conditions, and how far and for what reason they are different in different individuals." The troubles which beset the physiologist and psychologist are essentially identical. Vital activity to the one presents the same difficulties as mental activity to the other. Dr. Myers has performed his task very well, and given the student a concise, well-written account of the subject.

It is interesting to note, in the discussion on local signature, the evidence which leads the author to conclude that the local signs of the retina are innate in the retina and not due to kinaesthetic impressions. In cases of recovery from congenital blindness the individual is at once able to recognize differences in size and in form of images received by his retina. "So instantly is a round object seen to differ from a triangular one that the judgement is clearly independent of the training which would be needed before the eyes could be moved in a fashion orderly enough to follow the outlines of the object." Again, in certain cases of retinitis where the retinal elements are separated by inflammatory products, distortion of vision is produced owing to the fact that the displaced retinal elements retain their normal sign.

In the chapter on feeling we note the incorporation of Dr. Head's recent work on the thalamus. Sensibility may or may not be affected by lesions of this organ; the striking change consists in a marked increase of the pleasure and displeasure produced.

In regard to the appreciation of time, the author says the interval between two sparks which are heard seems shorter than the same interval between two sparks which are seen. The apparent length of the interval elapsing between two stimuli is influenced by the number and nature of experiences occurring during that interval. "Even when our surroundings are absolutely quiet, respiratory and cardiac movements are still occurring, and the muscles of the sense organs or other parts are always undergoing contraction."

The apparent enlargement of the sun or moon when seen at the horizon is attributed to their greater apparent distance when their rising is viewed in this position. The reviewer would point out that when the moon is seen through a tube it shrinks at once in size. It is, then, the comparison of the size with some distant large object, such as a tree, which causes the illusion.

Dr. Myers says that few are able to appreciate more than five different figures or objects when viewed on an illuminated screen for a momentary time. It is possible for most to detect the difference without counting between seven and eight bells when the bells are struck rapidly one after the other, but not between nine and ten.

Compared to the rapid extension in other branches of physiological science, we cannot help feeling that the progress of experimental psychology is slow, and that the methods employed are not leading at present to any great extension of knowledge.

[5] *A Textbook of Experimental Psychology, with Laboratory Exercises.* By C. S. Myers, M.A., M.D., Sc.D. Second edition. Cambridge: University Press. 1911. (Med. 8vo, Part I, pp. 358; figs. 24, plate i. Part II, pp. 107; figs. 40, 10s. 6d. net, two vols.)

THE WELLCOME TROPICAL RESEARCH LABORATORIES.

IT is with some trepidation that one turns for review the pages of a report such as the *Fourth Report of the Wellcome Tropical Research Laboratories*.[6] One feels almost unconsciously that the ground is delicate, and that allowances of one kind or another have to be made. In the first place, it cannot be ignored that Khartoum is not London, and that the conditions of research are essentially different in the two places. At the same time, it must not be forgotten that almost all the greatest discoveries in tropical medicine have been done on the spot, so to speak, although it is true that many of them required the work of European authorities to interpret their intrinsic importance and their bearings on science and medicine in general. Partly on this latter account, it is, unfortunately, not an uncommon habit for these stay-at-home *savants* to belittle the efforts of their more enterprising, if in many cases, it must be admitted, less able scientific brethren. There can be no question that in not a few cases such an attitude has some justification, but these cases are usually of men isolated, far from civilization, and cut off from literature and current thought. Such difficulties cannot be ascribed to the Gordon Memorial College, Khartoum, and we venture to think that the work done there is, for the most part, of a comparatively high order; the name of Dr. BALFOUR on the title-page is indeed sufficient guarantee that everything included in the volume possesses scientific value. The first volume (A, Medical) contains very little of an epoch-making or revolutionary character, yet the greater part of its contents represents sound and valuable work. It is three years since the last report was published, and the present volume can hardly be regarded as an excessive production for the intervening period. As in the previous reports, Dr. Balfour himself has contributed a large part of the material, and his activities in the present instance range over such a variety of subjects as spirochaetosis, kala-azar, diphtheria, fevers, tropical sanitation, water supply, veterinary notes, and a large number of miscellaneous notes. To each of these subjects he has contributed several interesting scientific and clinical observations. He has, in addition, been extremely fortunate in his choice of medical staff and collaborateurs. Captains Archibald and Fry, both now of the Egyptian Army, have made several valuable contributions to tropical pathology and bacteriology. Those deserving chief mention are papers on animal trypanosomiasis, parasitic granuloma, the lactose-fermenting bacilli in surface waters and botryomycosis. The other contributors to the present volume include such well-known workers as Colonel Mathias, and Captains Bousfield, Thomson, and Marshall. Their work has been chiefly concerned with sleeping sickness and kala-azar, and they have furnished some important items of information regarding the special features of these diseases as they affect the Sudan. Captain Marshall's contribution deals with a number of interesting pathological observations on kala-azar. It will be noted that practically all the departments of tropical medicine are represented in this report. The absence of any helminthological contribution appears to deserve comment, but apparently the worm diseases as they affect Egypt and the Sudan are left entirely in the hands of the able and competent professor of biology at Cairo. While it is true, as we have already remarked, that there is no discovery of first-rate order in the present volume, yet there is a lot of sound fundamental stuff which will be of use in future investigations. In making this criticism we must decidedly dissociate ourselves from the method of appraising the value of a scientific work from the fact as to whether it contains a new and startling discovery or not. Scientific work

[6] *Fourth Report of the Wellcome Tropical Research Laboratories.* Volume A, Medical; Volume B, General Science. By Andrew Balfour, M.D., B.Sc., F.R.C.P.Edin., D.P.H.Camb., Director. London: Baillière, Tindall, and Cox. 1911. (Imp. 8vo. Volume A, pp. 404; plates xx; figs. 101. Price 21s. net. Volume B, pp. 334; plates ix; figs. 150; maps and plans 30. Price 18s. net.)

is a lottery and, *ceteris paribus*, it is not always the most deserving who pick the plums. A high word of commendation must be given to the excellence of the illustrations and the coloured plates, which, as on previous occasions, are a feature of the report.

The second volume (B, General Science) contains a mine of information. It covers a very wide area, including chemistry, entomology, ornithology, the study of scorpions and snakes, gold mining in the Sudan, tribal customs of the Nyam-Nyam and Gour people inhabiting the Bahr-el-Ghazal, and municipal engineering problems in the tropics. All of these articles are worthy of careful study, especially by those working at the different branches themselves. The chemical section, dealing as it does with the composition of soils and with fertilizing experiments on such soils, must necessarily be of the greatest value to administrators and to all agriculturists in the Sudan, and the same holds good of the entomological section, ably written by Harold H. King, the economic entomologist. This section deals, amongst other things, with the control of locusts, the control of mosquitos, and other insects injurious to man and animals. The Chironomidae, Simulidae, Psychodidae, Tabanidae, Muscidae, Hippoboscidae, Cimicidae, and Oestridae are all represented in the Anglo-Egyptian Sudan; a list is given with localities. It is interesting to note that three species of Simulium are found, and if these are also eventually proved to exist in Lower Egypt, where pellagra is common, some experimental work might be carried out to prove or disprove the connexion between these flies and the latter disease. A new departure in the volume is a paper on the finches and weaver birds of the Sudan, being notes on the group containing the birds injurious to grain crops; it is written by Mr. Butler, Superintendent of the Sudan Game Preservation Department. This chapter should prove of great interest to ornithologists as well as to agriculturists. Mr. Butler believes that the whole question of the relation of birds to agriculture would repay careful study, and brings forward many interesting points in support of this contention. The Sudan Government must certainly consider itself fortunate in having a laboratory such as that at Khartoum. The amount of work done by this institution up to the present time has been very great, and everything points to still more being done in the future. Dr. Balfour is to be congratulated on the success of the laboratories and of the reports which emanate from them.

PHYSIOLOGY FOR LAYMEN.

PROFESSOR MCKENDRICK has employed the leisure of his retirement in writing a little book on the *Principles of Physiology*[7] "in such a way as will be understood by an intelligent reader who has had no special scientific training." The author has performed his task very well, and, so far as simplicity of expression and the wise selection of essentials can take the reader, he should find an easy passage through the book. The great stumbling-block would be the complete lack of anatomical information. The book has no diagrams or illustrations, and the man who tackles the conceptions of physiology without having seen the dissection of any animal or the microscopic structure of any organ, and without having even the help of diagrams, must gather a most imperfect and distorted knowledge of these conceptions. For example, Professor McKendrick writes: "Essentially the nervous mechanism consists of centres, nerves, and nerve-end organs. The centres are in great masses, constituting the brain and spinal cord, and in smaller masses found scattered here and there, known as ganglia." Again: "The central nervous system is built up largely of masses of neurones supported by neuroglia. These masses constitute what is called the grey matter, found in the centre of the spinal marrow, and in, and more especially on, the surface of the brain." Anatomical knowledge is inferred all through the book, and to those who know none the use of the words "centre" (in a double sense, too) and "masses of neurones" must give little clearness of vision. A bibliography and glossary are added at the end of the book. The former will be useful in helping the reader to extend his inquiry.

Professor HALLIBURTON has a facile style in the writing of textbooks and one that is popular, as is shown by the several editions he has been called on to publish. His last work is a little primer of physiology,[8] published by Messrs. Dent in a series edited by Professor REYNOLDS GREEN. This primer is written in simple language suitable for the general reader, and will serve its purpose well. The following passage exhibits the author's power of expressing scientific facts in a simple way. "We may roughly compare an enzyme to an ill-disposed person who comes into a room full of good-natured people, and who succeeds in setting them all by the ears. He has produced a change in them without undergoing any change himself, by his mere presence. He is, moreover, able to repeat the process over and over again in fresh roomfuls *ad infinitum*." In the section on ventilation Professor Halliburton does not draw attention to the fact, which cannot be too widely spread, that the discomfort of a crowded, close room is due rather to the stagnation of heat lost from the body than to chemical impurity of the air.

NOTES ON BOOKS.

BY an oversight, for which we must apologize both to the author and to our readers, we have failed to announce the appearance of a second edition of the *Sexual Disabilities of Man and their Treatment*,[9] by Mr. ARTHUR COOPER. The text has been revised, and additions have been made to most of the chapters. It is the best book of its kind with which we are acquainted, and is one which will be found very useful for reference in the treatment of a class of cases often of a very troublesome nature.

It is very seldom that one has the good fortune to meet with a really life-like and unbiassed account of hospital life. Most writers who approach the subject are, either consciously or unconsciously, guilty of exaggeration, and so manage to convey an utterly misleading impression to the minds of the uninitiated. Miss E. C. LAURENCE has therefore rendered the nursing profession a real service by the publication of her delightful book, *A Nurse's Life in War and Peace*.[10] Sir Frederick Treves, who has supplied the introduction to this most interesting volume, remarks that "those who wish to know something of a nurse's life and times will find in this writing a convincing narrative, unemotional and matter-of-fact"; and it is precisely these latter qualities which constitute at once the charm and the value of Miss Laurence's memoirs. Composed of extracts taken from the author's own letters, this modest record of a singularly interesting and useful career extends over a period of ten years, from the time of her entrance as probationer in a children's hospital in London to the date of her departure from South Africa before the close of the Boer war; and since the exigencies of her calling have led Miss Laurence to many lands and brought her into contact with many well-known people, it is hardly surprising that her book should prove far more attractive than the average novel. To many of her readers, of course, the most interesting chapters will be those relating to her experiences during the South African campaign; and certainly these hurried letters, scribbled at odd moments during the rush of almost unceasing work amongst the sick and wounded, give a wonderfully fresh and vivid picture of the more sordid side of the "pride, pomp, and circumstance of glorious war." But the chief merit of the book lies in its sane and wholesome tone and the total absence of cheap sentiment and sensationalism. Miss Laurence writes of what she has seen, not of what she has imagined; and her letters, with their infinite charity and tolerance, their cheery courage and steady loyalty to duty, should be put into the hands of every girl who meditates entering what is one of the noblest, as it is certainly one of the most arduous, professions it is possible for a woman to adopt.

[7] *The Principles of Physiology*. By Professor J. G. McKendrick. Home University Library of Modern Knowledge. London: Williams and Norgate. 1912. (Cr. 8vo, pp. 256; cloth 1s. net, leather, 2s. 6d. net.)

[8] *Physiology*. By W. D. Halliburton, M.D., LL.D., F.R.S. *Dent's Scientific Primers*, edited by J. Reynolds Green, Sc.D., F.R.S. London: J. M. Dent and Sons, Limited. 1911. (Fcap. 8vo, pp. 187, figs. 44. 1s. net.)

[9] *The Sexual Disabilities of Man and their Treatment*. By Arthur Cooper. Second edition. London: H. K. Lewis. 1910. (Fcap. 8vo, pp. 204. 5s.)

[10] *A Nurse's Life in War and Peace*. By E. C. Laurence, R.R.C., with a Preface by Sir Frederick Treves, Bart., G.C.V.O., C.B., LL.D. London: Smith, Elder, and Co. 1912. (Cr. 8vo, pp. 322. 5s. net.)

THE CONFERENCE ON TUBERCULOSIS AT MANCHESTER.

THE fourth annual conference of the National Association for the Prevention of Consumption was opened in the Milton Hall, Manchester, on Wednesday, June 5th. About 600 delegates were present, including representatives of numerous municipal authorities.

On the first day Dr. HOPE, M.O.H., Liverpool, was in the chair in the unavoidable absence of the LORD MAYOR, who, however, attended on the second day and gave the delegates an official welcome to the city. On that day also Dr. D. STUART gave a greeting to the conference from the National Association of Canada, and spoke of the movement against the disease now going on in the Dominion.

In his opening address, Dr. HOPE discussed the various methods which have been used in the effort to prevent consumption, dealing especially with sanitary reforms such as the provision of proper water supply and the control of housing accommodation. He showed that in Liverpool in large areas of insanitary dwellings where the mortality from phthisis had been 4 per 1,000 the mortality only reached 1.9 per 1,000 after clearance and rehousing schemes had been carried out. He laid emphasis on the need of providing healthy schools for children and on the great value of open-air schools, and showed the remarkably good effects that had followed the municipal control of the milk supply in Manchester and Liverpool. Dealing with the Insurance Act, he said it contained provisions from which great benefits would result, and afforded opportunities which the nation had never before possessed to render the struggle against tuberculosis more effective. While its main object was treatment, it dealt in the broadest manner with that powerful preventive agency—education. Speaking of the place and value of the sanatorium, he said that the extravagant expectations of the earlier advocates of sanatorium treatment had inevitably led to disappointment, but the true value of the sanatorium as a curative institution and a means of segregation and education was now fully recognized.

Tuberculosis in Children.

Professor DELÉPINE read a paper in which he summarized the results of sixteen years' research on the parts played by human and bovine tubercle in the infection of young children. Koch's theory that bovine tuberculosis was not communicable to man in any great degree was not now held, and the bovine form must be considered a source of danger, more especially to infants. Summarizing modern teaching, he said that it was now fairly well established that tubercle might be conveyed from man to man and from cattle to man; that tuberculous sputa were the most important source of infection of human origin, either in the dry state when reduced to dust or in the shape of fine particles projected from the mouth of consumptives in coughing; and that tuberculous cow's milk was the most important infecting material of bovine origin. Infective matter conveyed by the air might either reach the lungs direct or might pass into the alimentary canal and cause infection through that channel; the alimentary canal was the usual channel of infection by food. He gave statistics showing that probably 20 per cent. of fatal cases of tuberculosis in children were caused by infection through the alimentary canal, presumably by food, and that in 22 per cent. of persons dying at various ages from tubercle of various organs there was evidence that infection was of bovine origin. He had come to the conclusion that infection through the alimentary canal was predominant in infancy, that infection through the air passages became more and more common after the ages of 10 to 15, and that bovine tubercle was one of the most important factors in determining tuberculosis other than phthisis before the age of 5. Elaborate statistics were also given showing that after making due allowance for improvement due to better sanitation, the municipal system of milk inspection in Manchester had been of the greatest value. This, he said, was only to be expected, because it was possible to say without exaggeration that not less than 25 per cent. of the children under 5 years of age suffered from tuberculosis of bovine origin.

Dr. R. W. PHILIP, of Edinburgh, read a paper on the presence and prevalence of tuberculosis in childhood. There was, he said, ample evidence to show that tubercle existed in the majority of school children, and the existing system of medical examination of such children, however serviceable it might be from an administrative point of view, was entirely misleading as regards the incidence of tubercle in children.

Dr. J. PRIESTLEY said that the tuberculin test had shown tubercle infection to be extremely common in children, so that by the time the age of 15 was reached, 75 per cent. of the children had been tuberculized. In 99 cases out of 100, however, it either came to nothing or its development was indefinitely postponed.

Dr. J. E. SQUIRE said that the primary requirement for preventing the infection of school children was to be sought in improving the condition of their homes, though open-air schools and the boarding of weakly children in the country were of the greatest value.

Dr. NATHAN RAW laid strong emphasis on the danger of infection from tuberculous milk, and thought that it might be a wise economy to spend £2,000,000 in destroying all cows with disease of the udders, as the almost certain result would be the total disappearance of certain forms of tuberculosis among young children.

Mr. E. D. TELFORD spoke on the subject of the hospital school, and gave an interesting account of the great value of the Manchester Residential School for Cripples, especially in dealing with surgical forms of tuberculosis.

A general discussion then followed, in which a considerable number of the delegates took part.

Mrs. M. D. POWER SWEENEY, of London, submitted a paper going into great detail, of which she only gave the meeting a summary, in order to show by a number of lantern slides the methods adopted in the London open-air schools, and described the work of open-air schools in Germany.

Dr. C. E. LAST spoke of the results of treatment of pulmonary tuberculosis in childhood, and, basing his remarks on observations of about 800 children, said that it was wrong to suppose that it was always an acute and rapidly fatal disease in childhood. In reality it often began insidiously, and was not always easy to detect. It was thus of paramount importance to the nation that the children should be treated, especially as the results of treatment showed recuperative possibilities greater than in adults.

Dr. H. J. GAUVAIN discussed the subject of surgical tuberculosis, and especially advocated the conservative treatment of tuberculous bone disease. He said that in 700 patients suffering from tuberculous disease of the bones or joints during the last three years he had only performed one amputation, and that was owing to sepsis resulting from a previous operation. He thought that large institutions in the open country away from towns were needed for the treatment. With the aid of a fine series of lantern slides he described the treatment and methods used at the Alton institution.

Industrial Tuberculosis.

Dr. RANSOME discussed the need for more fresh air for workpeople. Some years ago, as the result of an inquiry, regulations were made limiting the amount of carbonic acid gas allowable in the atmosphere of humidifying sheds to 9 parts in 10,000, but the Home Office now allowed 11 parts, a retrograde step against which he hoped the National Association would protest. He proposed a resolution, which was seconded and carried unanimously, protesting against the lowering of the standard of ventilation in any of the workshops of the kingdom.

National Insurance Scheme.

The afternoon session was presided over by Dr. PHILIP, and was devoted to questions arising under the national insurance scheme.

Dr. W. LESLIE MACKENZIE read a paper on the work of local authorities under the Act. He pointed out that the term "sanatorium benefit" covered every form of treatment applicable to tuberculosis, either in institutions, including sanatoriums, dispensaries, convalescent homes, open-air schools, or rural or seaside homes. As indicated, too, in the interim report of the Departmental Committee on Tuberculosis, sanatorium benefit would include every form

of home treatment if carried out under proper conditions. To attempt, however, to treat any form of tuberculosis in overcrowded one or two roomed tenements was to trifle with the known factors in the spread of the disease, and, as the vast proportion of industrial workers lived in such houses, he put it as a question for the conference to consider: "Can we say that sanatorium treatment at home is likely to constitute on any great scale an effective method for the prevention of tuberculosis?" He thought that by the combination of the Public Health Acts and the added powers of the Insurance Act public health authorities would be in a much better position to prepare schemes of treatment and prevention for the community as a whole, including the non-insured. It was essential that children from the age of 1 year should be looked after as well as insured persons at the age of 16. He was inclined to think that the tuberculosis hospital would be a better starting-point than the tuberculosis dispensary for treatment in the great proportion of cases, as a short period of observational treatment in hospital beds should be of the greatest value.

Dr. H. W. McConnel read a paper on the after-care of patients who have been treated in a sanatorium. He thought it was a defect in the Insurance Act that no reference was made to the after-care of such persons. Efforts were being made to impress the Commissioners with the importance of this. He pointed out how after-care could be linked up with the local authorities and the Insurance Committees.

Dr. Chalmers, of Glasgow, said that the great problem in after-care lay in the indifferent housing and bad feeding of a large section of the population. It was ludicrous to suggest that people could live an outdoor life in a top room of a four or five storied tenement, as often happened in Scotland, and the only way to help them was to look into the economic condition of the people.

Dr. Trimble suggested that local authorities should not be hustled. He caused some laughter by saying that the attitude of the doctors, when once their legitimate demands were met, would be highly sympathetic.

The discussion was resumed the following morning, when Dr. Anderson presided, and the Countess of Aberdeen and the Lord Mayor and Lady Mayoress were present.

Mr. A. Neal, of Sheffield, said that any scheme for dealing with tuberculosis to be effective must be national in scope, otherwise there would be the injustice of one local authority neglecting its duty while another carried it out. The fear had been expressed that insured persons would have no guarantee of sanatorium treatment because of the cost, but he felt no doubt on that point. The right to sanatorium treatment would have to be recognized by the Insurance Committees and the health authorities, and he hoped the Insurance Committees would make arrangements with institutions which had been giving treatment in the past; there would still be ample scope for new institutions when that had been done, and it would be a pity if the activity of any of the existing institutions were reduced. The Act had been criticized on the ground that patients could not be compelled to accept treatment in sanatoriums, but he took it that the Insurance Committees could deprive such persons of other benefits if they refused the treatment recommended. It would be necessary to take care that overlapping beween authorities did not occur.

Work of Voluntary Societies under the Insurance Scheme.

The Countess of Aberdeen, who presided at the afternoon session, said that most of them must have heard the fear expressed that under the operation of the Insurance Act voluntary work in the antituberculosis campaign would diminish and the contributions towards the work would fall off. But the Act had been carefully framed with the view to inducing voluntary work to supplement what official work could not do. It might be hoped that the operation of the Act would bring together all the different agencies at work and give them that unity of aim which up to now had been lacking. Lady Aberdeen then went on to speak of voluntary work against consumption in Ireland, and claimed that the reduction in the death-rate from tuberculosis during the last few years might be attributed to the work of the association. She pointed out that the county councils of Ireland were in a peculiar position, as they had no general powers as health authorities, and were therefore startled when they learnt that they would be the proper authorities to deal with the tuberculosis clauses of the Insurance Act. Many of them were very unprepared to take up the work at once, and the Women's National Health Association had therefore been entrusted with the duty of making temporary provision for those counties, a portion of the grant allotted to Ireland having been placed at the disposal of the association for the purpose of meeting this national emergency.

Miss Broadbent, of the Invalid Children's Aid Association, said that the Insurance Act mentioned amongst future benefits the treatment of the families of insured persons, and it was certain that where parents were suffering from tuberculosis at all advanced, some of the children would also need treatment. In addition to open-air schools there would be need for home supervision, and there was ample scope for voluntary work in connexion with the care of infants and young children exposed to tuberculosis.

Mr. E. S. Kemp, of the Charity Organization Society, said that the society had found that in 52 per cent. of the cases it dealt with the patients became well and fit for work. Only cases suitable for sanatorium treatment were sent to these institutions, and while they were away from home their families were maintained, and on their discharge every effort was made to find them suitable work, and constant supervision was kept up as long as necessary. He feared that there would be many insured persons, especially deposit contributors, who would need more help than that available from the insurance funds, and that the voluntary associations would find ample scope for their activity.

Vote of Thanks.

At the close of a general discussion of the papers a vote of thanks to the corporations of Manchester and Salford was passed, on the motion of the Countess of Aberdeen; and Dr. Niven, M.O.H. for Manchester, replied on behalf of the Lady Mayoress.

Receptions.

On the evening of the first day there was a reception for the delegates at the university, and on the evening of the last day the delegates were received at the Town Hall by the Lord Mayor and Lady Mayoress.

The Tuberculosis Exhibition.

The Tuberculosis Exhibition of the National Association for the Prevention of Consumption was opened in the Drill Hall, Salford, on Monday, June 3rd, by the Mayor of Salford, and remained open during the week. Admission was free, and there was a very satisfactory attendance each day, especially of the working classes, for whom it was particularly intended. The exhibition was divided into nine sections. In (1) the statistical section, a large number of wall diagrams and tables were displayed, giving in a striking manner every imaginable sort of statistics about consumption as it affects various ages, trades, and towns. The effects of poverty and overcrowding in Shoreditch and Hampstead and in Glasgow were depicted, and at the same time encouraging statistics showed that among the nations of Europe, England stands best in its death-rate from consumption, Russia having a death-rate of 39.8 per 10,000 of the population, Austria 36.2, while England comes lowest on the list with a rate of only 11.4. Some figures for Salford showed that the death-rate in 1878 was 26 per 10,000, while in 1910 it was only 13, much of this improvement being put down to improved sanitation. In Sections (2) and (3), showing where the disease lurks and how it can be prevented, some interesting full-size models were exhibited of foul and dirty rooms, badly lighted and badly ventilated, in which four to six people lived and slept. Side by side with these were models of rooms of the same size, but airy, sunny, and healthy. Bird's-eye views of back-to-back houses in St. Pancras were shown, and sunless courts and dilapidated houses at Nottingham and Newcastle. Exhibits had been sent from St. Thomas's Hospital and from various tuberculosis dispensaries, most of them being diagrams or photographs of the various means used by the dispensaries for the prevention of consumption. In (4), the sanatorium section, a large collection of photographs depicted the routine of life

in a sanatorium, and numerous models were shown of various sanatoriums in England, Scotland, Switzerland, and elsewhere, with their shelters and open-air chapels. Models also were on view of the Edinburgh co-ordinated dispensaries and hospitals for consumption, and models of shelters for the home treatment of the disease suitable for gardens, back yards, and house-tops. In the children's section (5) were shown cheap and home-made apparatus for the sterilizing of milk, various kinds of feeding-bottles, cradles, cheap and hygienic, made from banana cases, weighing machines, plaster-of-Paris models of defective teeth, and a large number of pictures and photographs showing patients undergoing various forms of treatment or engaged in various exercises at open-air schools. The pathological section (7) was, perhaps, the least complete, consisting only of a few photographic enlargements of normal lung and bronchial tubes, and of tubercle bacilli in lung, spleen, and sputum. In (9), the municipal section, the exhibits were mostly copies of literature dealing with precautions against consumption issued by various towns with charts and diagrams showing in a graphic way the methods used to prevent the spread of infection. An interesting map was shown, prepared by Professor Delépine, of farms sending tuberculous milk to Manchester. A large assortment of leaflets, pamphlets, wall cards, and rules for consumptives were on sale at the literature stall at cost prices, and there appeared to be a great demand for them.

The stay of the exhibition in Salford ended on Saturday. Since then it has been at the Milton Hall, Manchester, and from there it will be taken to the Hulme Town Hall. In connexion with the exhibition a series of popular lectures on various aspects of consumption were given in the Pendleton Town Hall, Salford.

THE PARLIAMENTARY COMMITTEE ON PROPRIETARY MEDICINES.

THE Select Committee of the House of Commons appointed to inquire into the law relating to the sale and advertisement of proprietary articles resumed its deliberations on June 6th, at the conclusion of the Parliamentary Whitsuntide recess. Sir Henry Norman again presided. Evidence was heard principally as to the laws regulating the importation of proprietary medicines into the Commonwealth of Australia, but as to the supply of such articles to the public in Australia the Committee found it would be necessary to call for evidence from representatives of each State Government.

Mr. Neal, an officer of the Customs of the Commonwealth of Australia, gave evidence as to the Commonwealth law with regard to the importation of proprietary medicines. He said that the only legislation at present operative in the Commonwealth was the Commerce Trade Descriptions Act, 1905, which related to the trade descriptions to be applied to imported goods. Under Section 7 of the Act regulations might be made prohibiting the importation of any specified goods unless there was supplied with them a trade description as prescribed. Amongst the articles specified were "medicines, and medicinal preparations for internal or external use." In regard to proprietary medicines the description must include a statement as to the nature and purpose of the goods. A "fancy" name would not be accepted as a true description because it would not indicate the nature of the goods. It was not required that the formula of a proprietary medicine should appear on the label; if the preparation included certain specified drugs, those particular drugs, and the proportion contained, must be stated. The Customs had prohibited entirely the importation of certain drugs and articles; these included an "oxygenerator," manufactured in the United States of America; a preparation called "tuberculosene," manufactured in London; and an instrument or appliance called "oxydone," manufactured in the United States of America. The importation of indecent or obscene books, or of preventives of conception, mechanical or medicinal, was prohibited.

The Chairman: What of goods manufactured within the Commonwealth? Could they be made?

The Witness: So far as I know there is no bar. The Commonwealth law is not operative, and I believe the State laws do not prohibit. The witness added that for information as to the law relating to the sale and advertisement of proprietary medicines in the various States of the Commonwealth of Australia it would be necessary to apply to the Agents-General in London. He mentioned the report of Mr. Octavius C. Beale, who was appointed by the Commonwealth Government to inquire into the importation of patent or proprietary medicines. As a result of that report Government legislation was introduced, but was not proceeded with. From time to time the Customs Office issued departmental orders intended to safeguard the public. For example, an order was issued that with all goods purporting to be a remedy for gonorrhoea and its local sequelae there should be on the label a statement that if the disease did not readily yield to treatment a medical man should be consulted. Proprietary medicines were subject to a duty of 15 per cent. *ad valorem* on being imported into Australia.

In reply to Sir Philip Magnus, the witness said that the prohibition of the importation of certain of these articles was not intended, in his belief, as a protection to the home manufacturer, but for the safeguarding of the public against medicines that might be injurious. It was unfortunate that the Commonwealth had no control over the home manufacture; it said that certain of these articles should not be imported, and it hoped that the different States would follow suit.

In reply to various members of the Committee, the witness said he did not know of any cases in which a manufacturer whose goods had been prohibited entry had manufactured them in Australia through agents, but this, of course, was possible. The order in regard to the prohibition of the importation of preventives of conception did not specifically make any exception in favour of medical men. All questions as to the efficacy or otherwise of proprietary medicines were submitted to the Commonwealth Director of Quarantine, who was a medical man of high standing. He was not aware that since the enforcement of these customs restrictions there had sprung up numerous manufactories of proprietary medicines in Australia. The law requiring a true trade description did not operate more stringently in the case of proprietary medicines than in the case of other goods.

Mr. Guy Stephenson, Assistant Director of Public Prosecutions, gave evidence with regard to the policy of the Director of Public Prosecutions in cases of alleged fraud in connexion with the sale of proprietary medicines. He mentioned the extreme difficulty of obtaining convictions in these cases, where as a rule the seller was not the manufacturer of the article. It was necessary to prove that the vendor himself knew the statements on the labels to be false. In the case of drugs sold for illegal purposes it was specially difficult to obtain evidence because the person who bought and used the goods had also committed an offence. If the evidence of such a person was obtained it was necessary, in accordance with the practice of the courts, to call corroborative evidence, and in the nature of the case this could not often be done. The witness gave a summary of various cases in which prosecutions had been instituted during recent years, and he had not concluded his evidence when the Committee adjourned until Tuesday, June 11th.

On June 11th Mr. Stephenson continued his evidence, and gave particulars of proceedings under the Post Office Act against persons advertising through the post appliances for the prevention of conception and circulating other offensive printed matter. He mentioned the difficulty of successfully prosecuting in these cases owing to the differences of opinion of judges and magistrates as to what was and what was not indecent. In almost all the prosecutions for procuring abortion by mechanical means undertaken by the Public Prosecutor it had been proved that drugs had previously been administered, but without effect.

Replying to Mr. Glyn Jones, the witness said it had been held by the judges that the mere puffing of goods was not a false description of a kind that could be made the subject of a criminal prosecution. If a preparation was being sold which was proved to be doing serious harm to the health of a number of persons, an application was made to the Director to take proceedings; and if it was a medicine which came within the criminal law, the matter would be taken up. The mere fact of the description of a medicine

or drug being untrue or even fraudulent would hardly make the case one which the Director could take up unless he had evidence before him showing that his intervention was required.

In answer to further questions, Mr. Stephenson said seventeen convictions for procuring abortions were obtained by the Director last year. The offenders were chiefly women, but there were cases in which medical men were defendants. One man who had been struck off the *Medical Register* was convicted. There were certain drugs legitimately used in connexion with the cure of certain disorders which were also used to procure abortion, and the difficulty lay in deciding whether the use was legitimate.

Questioned by Mr. Harry Lawson as to whether any legislation had been promoted in regard to the advertisement and sale of drugs for the promotion of miscarriage and the prevention of conception, the witness said he had seen a bill dealing with the matter, but he did not feel justified in saying why the Home Secretary had not presented it to Parliament. He thought that if a label had to be affixed to every bottle of medicine containing a statement of all the drugs contained in it, fraud might be prevented, providing the person selling it was made liable for the sale, quite apart from his knowledge of the contents. Without legislation making it an offence to advertise a drug with a false description, the mere publication of the formula would not prevent attempts at fraud.

Dr. Chapple: Would you suggest that the placing upon a bottle of medicine of a label claiming that it was a certain cure for cancer should be made an offence?

Witness: I think it would be valuable for protecting people, but, short of absolute prohibition, I should find it difficult to suggest any kind of legislation.

The Chairman: What puzzles many members of the Committee is why a lying advertisement and a truthful analysis are not sufficient evidence. If this Committee supplied you with such analysis and advertisement what would you do?—I think we should go to the Attorney-General for his direction. Prosecution in connexion with medicines has not hitherto come within the purview of the Director.

The Chairman: My object is to find out whether the law at present is effective in any respect, or wholly ineffective; and it seems to several members of the Committee that we are up against a legal quibble.

The witness pointed out that it was always difficult to get a prosecution unless a number of people came forward on the ground that they had been induced to part with money on false representations and that their health had been injured by taking the article advertised. In several cases the vendors of the drug were able to get people to come forward and declare that the stuff had done them good. The prosecutor often made out a clear case, but some factor would arise meeting with the disapproval of the court. For instance, in the case of a police trap to obtain a bottle of worthless medicine, the prosecution had failed because the magistrate held that the chemist had been entrapped into doing what he did.

The Chairman: Does it follow from that that the existing law is gravely inadequate with respect to the sale and advertising of drugs?—I think it does.

There is nothing in the law to prevent any person making up any mixture containing anything except obvious poison, advertising it as a cure for any disease, and selling it broadcast on payment of the stamp duty?—It is possible to prosecute in such cases provided that somebody comes forward and says that he has parted with his money on the faith of the statement made in the advertisement, and provided also that it can be proved that the vendor knew that the drug was not capable of doing what he said it would do.

The difficulties are so great that, whatever may be the case theoretically, practically the state of things is hopeless?—Yes.

The Committee then adjourned.

THE International Congress of Neurology, Psychiatry, and Psychology, which held its last congress at Amsterdam in 1907, will meet again at Berlin in September, 1914. The President of the Organizing Committee is Dr. Dubois of Bern.

SCIENCE NOTES.

IN the Croonian Lecture on the process of excitation in nerve and muscle, delivered before the Royal Society on June 6th, Dr. Keith Lucas, of Trinity College, Cambridge, said that attention had lately been drawn to the slow progress made by physiologists in understanding the physico-chemical nature of the nervous impulse. In the lecture an attempt was made to examine one aspect of the experimental knowledge which must precede the formulation of any hypothesis of this nature. The first problem was to analyse by experiment the relation between each of the phenomena observed in an excited nerve or muscle and that central disturbance which constituted the nervous impulse. This analysis determined what phenomena must be taken into account in any hypothesis of the nervous impulse. It revealed the fact that work on the propagation of the disturbance in nerve and muscle had been hampered by the want of a method by which a quantitative measure of the disturbance might be obtained. It showed also that there could be distinguished from the propagated disturbance a preliminary local excitatory change, which was produced by an exciting agent at the seat of stimulation, and constituted the necessary condition for starting the propagated disturbance. By the recognition of the local excitatory process there was opened a fresh possible line of advance in the direction of determining what the nature of the propagated disturbance might be. The former constituted the condition which initiated the latter, and a knowledge of the physico-chemical nature of the local change might therefore form an important step towards formulating a hypothesis of the nature of the disturbance which was the basis of propagation. The hypothesis of Nernst, that the local excitatory process was a concentration of ions at a membrane impermeable to those ions, was examined critically. Some objections already brought against it proved unfounded, and the genuine difficulties of the hypothesis were in themselves of service in suggesting experimental work which was needed for the complete verification of any such hypothesis. Until such work had been done it would be useless to accept or to reject the hypothesis, which remained for the present a valuable means of attack and a guide to future work.

At the Royal Society annual *conversazione* Dr. Fantham and Miss Porter exhibited some preparations of *Nosema apis*, the parasite of a deadly form of bee disease, which has become notorious within recent years owing to its prevalence in the Isle of Wight. The disease is a form of enteritis which spreads with great rapidity and frequently decimates a hive. The queen often falls a victim, and the hive perishes. This disease is very similar to the well-known disease of silkworms, called "pébrine," and it is due to a closely allied form of parasite. It was only a year or two ago that the nature and cause of the disease were discovered, and it was found to be due to a protozoon belonging to the Microsporidia. It attacks the intestinal epithelium, but it may spread into various other organs of the body. The epidemic usually starts in the spring. Although other bee diseases are known, this particular parasite has probably been responsible for most of bee disease in this country during the past half-dozen years.

Newton Miller has little to tell us that is new, but much that is interesting, concerning the reproductive habits of the common brown rat.[1] He has made an extended and very careful study of the animal in captivity. As is well known, the rat is extremely prolific, and in its multiplication it recks neither of time nor of season. Gestation is over in twenty-four days, and six to twenty young rats may be brought forth in one litter. Not infrequently half a dozen litters are reared by a single pair in one year. One female produced seven litters in as many months. In captivity half the progeny, however, are devoured by the fond parents, especially the female, and it is not improbable that the same thing happens to a less extent in the wild state. The young do not become full grown till they are about 1½ years old, but they attain sexual maturity long before that, as a rule about the end of the fourth month. On that account as many as four generations may make their appearance within a year. Rats

[1] *American Naturalist*, 1911, pp. 623–35.

do not worry much about courtship formalities. The males are inveterate fighters, and the losers have rather a rough time. The females show a certain resistance to the advances of the male, but this is not prolonged. These observations will do much to fix our knowledge of the habits of our formidable enemy, the brown rat.

An interesting study of the amount of accommodation exerted by the eye during microscopical work has recently been made by Brocher.[1] He made use of a camera lucida attached to the microscope in the usual way. Alongside the microscope he placed a mirror reflecting a view of the landscape into the camera, and on this mirror he gummed a small piece of paper. On looking through the camera three objects may be seen—namely, the object in the microscope stage, the landscape, and the piece of paper—but only two of these will be distinct. If the first two are distinct the observer is obviously making no effort of accommodation, provided he be emmetropic; but if the first and third are distinct, an effort of accommodation is being made, to the extent, in a normal eye, of about 2½ diopters. It is evident that, in the first case, no eye fatigue is involved, which explains why so many experienced microscopists can work for long periods without tiring. Certain persons, however, find it impossible to avoid accommodating when looking at an object with the microscope, and they naturally experience a considerable amount of eye-strain. With practice, however, the trouble may be overcome, and the eye be maintained in a condition of relaxed accommodation.

In a recent number of *Science* (March 22nd) Professor Pratt attempts an enumeration of the species of animals known at the present day. All the numbers he quotes are at best approximations, but he arrives at a grand total of 522,400. When one considers what a species means and remembers that the average person, even of zoological tendencies, is not acquainted with more than a hundred or two animals by sight or by repute, such a figure is almost stupendous. Even although each species were no more numerous than mankind, the gross total of living individuals would be at least 1,000 billions. Such a figure, short as it is of the mark, conveys about as much meaning as the distance of the nearest fixed star, but it illustrates the enormous wealth of life on this small globe of ours. One of the most distressing features of all lists like that of Professor Pratt's is the inconceivable number of insects. They comprise three-quarters of the whole, or, in other words, three out of every four animals is an insect. When we are further assured by competent authorities that the known species of insects are practically only a fraction of the unknown forms, which are to be numbered by the million, the brain begins to reel. It is comforting to find that molluscs make a bad second, being outnumbered to the extent of six to one. Somehow we do not feel the same antipathy to the multitude of shellfish, provided they be not of the *genre* octopus. Far behind these come the crustacea and spiders, further representatives of the multijointed leg type. The vertebrates as a whole are third, but of their several divisions the birds and fishes are inferior in number to the crustacea. The mammals occupy a very lowly position. For comparison, Professor Pratt gives corresponding lists compiled by Ludwig in 1866, by Agassiz and Brown in 1859, and by Linnaeus in 1758. These are interesting as showing the progress of knowledge. Linnaeus's total was a little over 4,000. A hundred years later that had been increased thirty-fold, and that total has been doubled during each of the succeeding quarter centuries. If the present rate of increase is maintained we ought to reach a million within twenty years. During the hundred years following Linnaeus's list the greatest proportional advance was made in regard to protozoa and insects, the smallest in regard to vertebrates. The next twenty-five years was especially remarkable for the advance in echinoderm iand worms, while the most notable increase in recent times has been in myriapods and sponges. Although these figures are only approximate, and though they only deal with the enumeration of species, they may be taken as a fair index of the general progress which zoology is making in these latter days.

[1] *Rev. méd. suisse romande*, 1911, p. 69.

LITERARY NOTES

THE lecture on "How to use the British Museum Reading Room," delivered on several occasions during 1911–1912 at the Museum by Mr. R. A. Peddie, has now been revised and enlarged for publication, and will be issued by Messrs. Grafton and Co., 69, Great Russell Street, Bloomsbury, London, W.C., in popular book form before the end of the month. The book will doubtless be of great service to many engaged in literary or scientific research who at present often lose their way in the tangled jungle of the Catalogue.

Messrs. J. and A. Churchill have ready for publication a new book by Professor E. H. Starling, F.R.S. The volume is entitled *Principles of Human Physiology*. The aim of the work may be gathered from the following passage which occurs in the preface:

> This mutual stimulation and co-operation among the different sciences have as their result a continual modification of our attitude with regard to the fundamental problems of physiology. The present time has seemed to me, therefore, fitting for the production of a textbook which, while not neglecting the data of physiology, should lay special stress on the significance of these data, and attempt to weave them into a fabric representing the principles which are guiding physiologists and physicians of the present day in their endeavours to extend the bounds of the known and to increase their powers of control over the functions of living organisms.

The book contains 645 illustrations.

There is at Goschenen in Switzerland a superintendent of the refreshment room who devotes the time he can spare from catering for the bodily needs of passengers to providing them with food for their minds in the form of novels. His name is Ernst Zahn, and according to Madame Noémie Valentin, widow of a professor of laryngology in the University of Bern, his novels are marked by much tragic power. His latest work, entitled *The Woman of Tanno*, is based on facts interesting to the pathologist. "Tanno" is Tennà, a little village in the Grisons, which is well known in medical literature, for it is remarkable for the number of "bleeders" among its inhabitants. As is the case with haemophilia elsewhere, the condition runs in families, selecting males as its victims. There is nothing in the climate of the place, or in the food of the people, that throws any light on the prevalence of the disease, which runs in families that go back to remote times. It is said that at one time the women of the village bound themselves by a solemn covenant not to marry, so that the transmission of the disease might be checked. Zahn has taken this renunciation, this vow of chastity independent of religious considerations, as the subject of his novel. The struggle between the natural desire for wedlock and motherhood, with the sense of duty to future generations, would seem to present fine opportunities for artistic treatment.

We have received a copy of W. B. Saunders Company's new illustrated catalogue of books on medical, surgical, and allied subjects which, as usual, is remarkable for the beauty of the specimen illustrations it contains. The number of new books and new editions in the catalogue serves to give an idea of the rapid growth of medical literature.

The doctrines of Christian Science have attained such widespread credence that at the present moment there is probably hardly a civilized country in the world which cannot reckon amongst its inhabitants a certain number of Mrs. Eddy's votaries. Even the death of the foundress seems to have had little or no effect upon the faith of her followers: and it may be truly said that the career of this remarkable woman offers one more testimony to the eternal folly of mankind. A brief sketch of her life and teaching is given by Dr. Et. Burnet in the May number of *L'Hygiène*, which also contains an interesting account by Dr. Maurice de Fleury of the great International Tuberculosis Congress recently held in Rome. The same number includes a short article by M. Francis Marre on the different brands of tea and the best means of obtaining a good and harmless infusion; whilst Dr. Maurice Nigoul writes on the dangers indicated by a sudden loss of flesh in an apparently healthy subject, and Dr. Paul Le Gendre contributes some useful advice as to the causes, treatment, and, above all, the prevention of rheumatism.

The fourth number of *The Arena*, a new illustrated monthly periodical dealing with university and public school life and amateur sport, contains a short article on the medical profession, forming one of a series on "openings and opportunities available for public school and university

men." The article is, however, mainly concerned with the medical curriculum, and does not adequately set out its difficulties nor the length of time which the vast majority of students must devote to it. The statement that to obtain a university medical degree "involves a longer and more expensive training than for a diploma" is not true as a general proposition. The writer speaks of "many lucrative appointments in connexion with public institutions at home and in the colonies and under local government authorities," but the word "lucrative" seems usually to bear a shade of meaning which means large salary or profits, and it would have been better to have used the non-committal term "salaried." We have felt bound to call attention to these matters, for *The Arena*, through its excellent illustrated articles on the universities and great public schools—in this number there are such articles on the Cambridge Union and on Winchester—will make a strong appeal to those it addresses.

ANENCEPHALOUS MONSTERS.

ONE of the commonest of all monstrosities in man is that known to teratologists as Anencephalus. The brain is more or less deficient, and the prominent eyes, the head extended backwards, and the relative over-development of the trunk and extremities give the fetus a most repulsive appearance, terrifying to the ignorant. In ancient days a monster born to a woman of rank would have been a portent; in the middle ages the mother of an anencephalus was liable to be taken for a witch or the victim of an incubus, a demon in the form of a man. Neither teratological theories nor "occult" doctrines about monsters are of immediate interest to the practitioner, but the alleged increase in the birth of anencephali is to him and to the public a matter of some importance. Did the Western World still hold the superstitions of the Ancients, then without doubt these monstrous births, so often published, would have been associated with a fearful shipwreck, with the sudden death of a king, with the dread of the evils of Syndicalism, and with the burden of armaments. The Western World, however, though it may be saturated with illusions which only later ages will recognize, can trace no law of cause and effect between monstrous births and the evils associated with civilization. As for the alleged increased frequency of anencephalous monsters, some of our correspondents have turned attention to the subject. Mr. George Morgan referred to it in the JOURNAL of April 6th. The fact that since then we have received several communications might be thought to support the idea that this monster is becoming more frequent. Dr. Richard Craven, of Longridge, Preston, informs us that two cases occurred in his own practice last autumn. On November 14th a woman who had given birth to one normally-formed child was delivered at the seventh month of her second. It was stillborn, and the breech presented. The calvaria, frontal, parietal, and occipital, was entirely deficient and the extension of the skull extreme, so that there was no neck posteriorly. On December 4th another patient was delivered by Dr. Craven at the seventh month. She had borne three normal children, all healthy. On this occasion the fetus was anencephalous, and as completely so as in the first case, and it was likewise dead when born. The malformed head presented, and at first the presentation was suspected to be transverse with a spina bifida. On delivery spina bifida as well as failure of closure of the cranial vault was discovered. This point is of interest to the obstetrician. Dr. Mona Roberts, Assistant Medical Officer to the St. Pancras South Infirmary, reports the labour of a primipara at the seventh month, last February. When the membranes ruptured a great quantity of liquor amnii escaped, and a dark, discoloured mass presented. It was the head of an anencephalous female fetus, 1 lb. 12 oz. in weight, and it had apparently been dead for several days. There was no difficulty about delivery. The deficient closure of the vault was as conspicuous as in Dr. Craven's cases, and there was almost complete spina bifida reaching to the beginning of the cauda equina. A vestige of brain was detected on dissection. Dr. Jessie Balsillie of Burton-on-Trent has supplied us with notes of a case under observation a few years ago at the Dundee Royal Infirmary. In this instance delivery occurred at term; the labour was slow but otherwise normal. The encephalocele presented; it was a prominent bilobed tumour. One lobe was born after the other. The photographs which we publish show this peculiarity, which might puzzle even an experienced obstetrician. To the touch, it might easily simulate a congenital sacral tumour. On the other hand, there was no spina bifida. As usual (especially when, as in this case, pregnancy had gone on to term) the body of the fetus was greatly over-developed. The explanation of this familiar phenomenon in anencephali may be left to embryologists and physiologists. There was also double talipes varus. Dr. Gill, of Rilla-Mill, Cornwall, informs us that in the course of twenty-five years' active midwifery practice he has only once come across an instance of this kind of monster. The mother was healthy, but had recently suffered some trying experiences. She had been four times pregnant, and her fourth child was a boy with six digits on both hands and feet. Two years later (in December 1910) the patient gave birth to an anencephalous monster, stillborn.

The above evidence, compared with numerous reports in past volumes of the JOURNAL, certainly prove that anencephalous monsters are frequent. But relative questions suggest themselves to us. Is the amorphous acardiac twin so very much rarer? An anencephalus is a big, ugly monster, and the presentation of its head puzzles the obstetrician. The case is not likely to be forgotten. On the other hand an "amorphus" gives no trouble, and may be taken for a placental outgrowth. So, again, is it with several other types of monster. But, as in the instance of the single anencephalus, we know that the double thoracopagous and pygopagous monsters cannot well be overlooked. They sometimes live, they may make a livelihood trading on their weird deformity, and may even bear children, as in one case reported a few years ago in the JOURNAL. Anyhow, anencephalus is common. But there remains another factor to be taken into consideration. The profession is much better trained to observation than was the case forty or fifty years ago. We cannot help noting the care with which our above-named correspondents record certain facts which their predecessors in the mid-Victorian age would most probably have neglected or overlooked altogether. Many would have failed to make any public mention of the monstrous birth at all. Therefore it seems probable that anencephalus is not necessarily commoner than in past days, but it is certain that it is more frequently published by those who observe it.

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SATURDAY, JUNE 15TH, 1912.

THE GENERAL MEDICAL COUNCIL.

THE General Medical Council sat for five days last week and concluded its business without difficulty on Saturday afternoon. The President's address, which, as usual, sketched in some detail the work the Council had to do, was printed in full in the JOURNAL of June 8th, and in the same issue attention was directed to some of the business done in the earlier part of the session. A full report will be found in the SUPPLEMENT this week, but reference may here conveniently be made to some matters of general interest.

One of these was the recognition of instruction in preliminary sciences given in secondary schools. The presentation by the Students' Registration Committee of an additional list of secondary schools for approval afforded to Dr. Caton, the representative of the University of Liverpool, the opportunity of moving a resolution, seconded by Dr. Lorrain Smith, the new representative of the University of Manchester, to the effect that no further additions be made to the list. Some little discussion ensued in which all of the old arguments *pro* and *con.* reappeared. The supporters of the amendment reiterated the opinion that physics, chemistry, and biology, should be taught, even in the first year, with a regard to their applications to medical science, though no one was bold enough explicitly to maintain that during the first year the general grounding in those subjects could be carried to such an advanced point as to bring the medical applications of the matters taught well within the grasp of the student. Sir Thomas Fraser (University of Edinburgh) supported the amendment, as also did, though in more uncertain tones, Mr. Pye-Smith (University of Sheffield); it was opposed by Sir Clifford Allbutt, Dr. F. Taylor, Sir Henry Morris, and Dr. Norman Moore. The amendment was lost; had it been passed it would have amounted to a reversal of the all but unanimous decision arrived at by the Council a year ago—a decision, we may add, that seems to be in the best interests of medical education.

The Committee formulated certain requirements to be fulfilled by secondary schools applying for recognition. These embraced evidence that the school was a public foundation; that it had been recognized for the purpose by one of the licensing bodies; that it was inspected at a given date; and that it desired recognition in specified subjects. Sir Henry Morris and Dr. Mackay were responsible for a motion that the period for which instruction in preliminary science taken at recognized institutions other than medical schools should be allowed to count towards making up the five years of the curriculum should be limited to six months. This was carried, and its adoption was of some importance in relation to Dr. Caton's amendment, in so far as it limits the practical effect of the recognition of school study, though, of course, it does not touch the question of principle.

Last December, during its winter session, the Council adopted certain recommendations by which the resolutions of the Council in regard to professional education were affected, and the Education Committee was in consequence instructed to recast the resolutions. At this session it submitted the revised resolutions, and asked that they should be placed on the minutes for the information of persons and bodies concerned. Among the resolutions in the draft was one advising examining bodies and schools so to frame their rules that attendance on systematic courses should be concluded at the end of the fourth year of study, so as to permit of the student devoting the fifth year to clinical work. Exception was taken to this recommendation, and Professor Saundby, who was seconded by Dr. Gibson, proposed that it should be deleted. It was pointed out that if educational bodies liked thus to arrange the work it was perfectly open to them to do so, but that a hard and fast ruling on the subject would hamper them, and would in many cases lead to students having half of their day not occupied by any definite work, as it would not be possible to let the fifth-year students be in the hospital during the whole day. The motion to omit the recommendation was carried, although some speakers considered it a retrograde step.

Another educational question which engaged attention was that of the position of Indian students who desired to obtain a registrable qualification in this country, and asked that the curriculum in India should be recognized. The exigencies of that country require the institution of several grades of persons who, whilst in some respects receiving a less complete medical education than obtains at home, do undergo systematic courses of instruction and pass examinations. In some cases the candidate after a four years' course receives a licence which is not registrable; in other cases the education received is still less complete. The question before the Council had relation principally to those who, whilst receiving a fairly complete course, have not obtained a registrable qualification, and who desire to offer themselves for examination in Great Britain, the special issue being the extent to which their period of study in India should be allowed to exempt them from the fulfilment of the entire home curriculum. The Examination Committee recommended that no recognition should be accorded to the examinations which they had passed, but that the courses they had attended in India might, subject to appropriate precautions, be accepted as the equivalent of (at most) three of the five years of the curriculum, and that at least two years' study of specified subjects in the United Kingdom should be required. The Committee recommended also that the applicant should be required to have passed a preliminary examination in arts recognized by the Council, and that evidence of Indian study must be provided by certificates furnished through the India Office. These regulations were drafted in consultation with the Indian authorities, who are co-operating with the Council in the matter. A little opposition to the report was shown on the ground that its adoption might open a back door to obtaining a British qualification on easy terms, but the Committee were able to satisfy the objectors on this point, and the report was adopted.

Arising out of this discussion and out of the list of exemptions furnished to the Council on an earlier day was a resolution adopted on the motion of the Senior Treasurer instructing the Education Committee to report whether it was desirable that any intermediate examinations held by bodies whose diplomas or licences were not registrable in this country should be accepted by the home licensing bodies in lieu of any of their own examinations. It appeared that there were instances of such examinations, of the standard

of which the Council could have little knowledge, having been so accepted by certain of the licensing bodies in the United Kingdom.

The Education Committee presented a report containing certain conclusions as to the scope and conduct of preliminary examinations in arts, and asked that these should be published in the minutes of the Council without being previously discussed or approved in order that examining bodies might see them and communicate with the Committee. The advisability of placing on the minutes resolutions which had not received the approval of the Council but which might thus appear to have its endorsement was discussed, and it was good-humouredly pointed out that the examination set up as the model to which others should conform was a Scottish one, and that only Scotsmen had spoken in favour of the insertion of the report on the minutes. However, when it had been stated that as certain examinations were to be excluded from recognition in 1914, the bodies conducting them might naturally wish to see to what standard they would have to rise in order once more to obtain recognition, it was agreed to receive the report of the Committee and to place it on the minutes. Publicity is thus given to the report but the Council is not pledged to its adoption.

HEDONAL AS A GENERAL ANAESTHETIC.

This synthetic product—methyl-propyl-carbinol-urethane—more powerful than its congener urethane, was introduced some few years ago as a hypnotic. It may be prepared from methyl-propyl-carbinol, which is warmed and acted upon by urea nitrate.[1] It forms fine, long, needle-shaped crystals which melt at 76° C., are slightly soluble in cold water, although more readily so in hot water. Its taste resembles that of menthol. In action it is similar to trional, and, according to de Moor, it is strongly diuretic when administered in solution. With alkalis hedonal when boiled decomposes, but boiling in neutral solution does not alter its composition.

Dreser, who has studied the pharmacology of this drug, regards it as a powerful diuretic, and attributes its action in this direction to its being split up in the organism into carbon dioxide, water, and urea. He asserts that it is ten times more powerful as a hypnotic than urethane; that it lowers blood pressure, but does not interfere with respiration, but upon this last point his experiments are in conflict with the clinical experience of Fedoroff and others.

Guided by the experiments of Lampsakow upon lower animals, Krawkow was led to employ hedonal as an antecedent to the administration of chloroform. He found that about 3 grams (45 grains) lessened the quantity of chloroform required and diminished the severity of all after-effects. S. P. Fedoroff was led by experiments on animals, which revealed the fact that intravenous infusion of hedonal produced anaesthesia without danger, to extend its use to man. In his first cases he employed 4 grams of hedonal in mucilage as a rectal injection two hours previous to intravenous infusion of 0.75 per cent. hedonal in saline solution introduced immediately before the operation; 200 to 300 c.cm. produced anaesthesia, and subsequent infusion of 50 to 100 c.cm.—that is, 6 to 10 grams—sufficed for a single anaesthesia. Subsequent experience has led Fedoroff to dispense with the rectal injection and to rely solely upon intermittent or continuous infusion of a 0.75 per cent. warmed and filtered solution of hedonal. He plunges a curved needle into the peripheral part of a vein. After 100 to 150 c.cm. have entered drowsiness supervenes, and in a minute or two deep sleep occurs. If the flow is too rapid respiration stops, but in his experience is readily restarted by a few compressions of the chest. He has employed the drug in this way in 530 cases. The utmost amount which should pass into the vein in a minute is 100 c.cm. The limits of quantities which are requisite for operations lie between 400 to 8,000 c.cm. It must be remembered that given by the mouth the dose is reputed to be from 15 to 45 grains.

A. T. Sidorenko has recorded similar experiences, and concurs in Fedoroff's statements that the after-effects are usually extremely slight. He points out, however, that excitement may occur during the stage of recovery, and that the patients sometimes remain soporose for a long time after the operation, and that when in that state the tongue is liable to fall back and lead to suffocation. Jeremitsch, pursuing Fedoroff's method, failed when making the infusion into veins of the leg in 2 cases out of 65. The limits of quantities used by him were 325 to 1,100 c.cm.

This system has up to the present been used with equal success in various Continental clinics and in this country to some extent, notably by Mr. C. M. Page at St. Thomas's Hospital. After an experience of over 100 cases, Mr. Page, who employs a continuous infusion method, regards the plan as valuable in many cases; so soon as anaesthesia is established, he only permits a very slow rate of flow, and graduates the dose to the age of the patient; his patients have included young children as well as adults. He has met with no deaths due to the hedonal, and after-effects have been trifling or wholly absent.

It is impossible to estimate the mortality, as so few cases in which the drug has been used to produce general anaesthesia have been reported. Last week an inquest was held as to the death of a man, aged 48, in the Golden Square Throat Hospital, London, where hedonal had been given as a general anaesthetic; he appears to have died in the post-operative stage. The verdict, in accordance with the medical evidence, was that death was due to heart failure from blood poisoning, accelerated by the administration of the anaesthetic and the operation. A death has also been reported from Hull; in this instance Mr. Page's technique was followed, and the death appears to have resulted from respiratory failure some few hours after the operation was completed and all apprehension of danger had passed. A third death, recently reported from the Hospital for Sick Children, Great Ormond Street, was that of a girl, aged 8, whose respiration failed as the stitches were being inserted. In this case the pathologist considered that status lymphaticus was a contributory cause of death.

The obvious objection to drugs such as hedonal is the long time their hypnotic effect persists—a peculiarity which is an advantage during the operation, but a danger during the period of recovery.

[1] $CO.NH_2.NH_2HNO_3 + HO.CH.CH_3.C_3H_7 = CO.NH_2.O.CH.CH_3.C_3H_7 + NH_4NO_3$.

THE DEPUTATION TO THE CHANCELLOR OF THE EXCHEQUER.

As announced in an official communication issued to the press and published in many papers on June 8th (see page 1385), the State Sickness Insurance Committee, at its meeting on Friday, June 7th, received and accepted an invitation from the Chancellor of the Exchequer and the Insurance Commissioners to an

immediate interview with regard to the matters set out in the resolution of the Committee on May 30th inquiring whether the Commissioners could formulate regulations to satisfy the demands of the profession, as stated in the letter addressed to the Commissioners on February 29th, after the Special Representative Meeting in that month, and, if so, whether the Commissioners were prepared to make such regulations.

The interview was held the same day. Mr. Lloyd George presided, and a general conversation took place during which the members of the deputation elaborated and defined the demands of the profession as formulated by the Representative Body of the British Medical Association. The only definite outcome was a strong appeal from the Chancellor of the Exchequer to the deputation to the effect that the representatives of the profession might reasonably be expected by the Government to furnish the facts and figures on which it claimed 8s. 6d. a head as a minimum rate of remuneration, not including extras and drugs. Mr. Lloyd George outlined a plan for obtaining statistical information as regards existing conditions in respect of medical attendance and remuneration. He proposed that some half-dozen towns in different parts of the country should be taken, and that all medical practitioners in those towns should be asked to permit their books for two years (1910 and 1911) to be examined by an independent actuary who should be instructed to make a report on the amount of work done and the amount of remuneration received by the medical profession, as a whole, in the several towns. At this point the deputation was adjourned with the understanding that a memorandum on the amount of remuneration which medical practitioners should receive under the Insurance Act would be sent to the Chancellor of the Exchequer before the deputation had its next meeting with him and the Insurance Commissioners, which was fixed for Wednesday, June 12th. Such a memorandum was accordingly sent in to the Chancellor of the Exchequer on Tuesday, June 11th, and will be reported to the Divisions and the Representative Meeting.

The deputation was resumed on Wednesday afternoon, June 12th, but did not lead to any conclusive result. The Chancellor of the Exchequer reiterated his plan for making an actuarial investigation in various towns and explained it more fully. The statement which has appeared as a rumour in the *Times*, and possibly in other papers, that a settlement with the medical profession may be arrived at on the basis of an 8s. 6d. capitation fee to include the provision of drugs is not founded on fact. No such proposal was made. Had it been made, the State Sickness Insurance Committee would not have been in a position to do more than undertake to report the proposal to the Association and the Representative Meeting next month.

The only new fact is that the State Sickness Insurance Committee, when it resumed on Wednesday evening, June 12th, had before it a letter from Sir Robert Morant, inviting it to approve the proposal to make an independent actuarial investigation in the manner indicated by the Chancellor of the Exchequer. The letter, which, together with a memorandum by the Commissioners, is published at p. 1385, also asked the Association to furnish to the Commissioners, in further illustration of the memorandum on remuneration, any other facts already in its possession which would throw light upon existing conditions of medical practice and remuneration, whether as to types of practice or particular practices. While fully realizing the difficulties which must attend any such actuarial investigation as the Chancellor of the Exchequer proposed, the Committee resolved to inform the Commissioners that it was prepared to give every possible assistance in the collection of the information desired. It pointed out to the Commissioners the obvious fact that the Committee had no power to compel practitioners to open their books to such an investigation, but added that it was prepared to advise practitioners in the selected towns to assist in the collection of the information. The Committee refrained from making the observation that it was a little late in the history of the insurance scheme to institute such an investigation.

It may be added that the Chancellor of the Exchequer had intimated to the deputation that if a trial of his plan showed it to be impossible to obtain complete returns from the selected towns, he would still be glad to have the results of as complete an actuarial investigation in each town as possible, the totals of work and remuneration in the towns being reached by instructing the actuary to make estimates in respect of those practices the books of which could not be investigated by him.

SANATORIUM OFFICERS UNDER THE INSURANCE ACT.

At its meeting on June 12th the State Sickness Insurance Committee had before it a communication asking the opinion of the Committee in regard to the attitude to be adopted with reference to the appointment of sanatorium officers by the Insurance Commissioners. The inquiry raised the question whether the decision would be affected by the circumstances that the appointments were offered by county councils or by local Insurance Committees. In this connexion attention was called to the resolution (Minute 78) of the Special Representative Meeting of February 22nd, 1912, instructing the Council to take all possible steps to ensure that no member shall take any office or work under the National Insurance Act, other than that of the Advisory Committee, until such time as the minimum demands of the profession are conceded. It may be noted that succeeding resolutions provided that this did not apply to Ireland, and would not preclude a medical officer of health from giving advice to an Insurance Committee in his official capacity. Having regard to the resolution (Minute 78), the State Sickness Insurance Committee felt that there was no other course open to it than to decide that no medical appointments should be accepted for the administration of sanatorium benefit until such time as the minimum demands of the profession are conceded.

MEMBERSHIP OF PROVISIONAL INSURANCE COMMITTEES.

THE resolution with regard to Provisional Insurance Committees adopted by the State Sickness Insurance Committee at its meeting on June 7th, reported elsewhere (page 1384) in this issue of the JOURNAL, calls for the particular attention of the secretaries of Divisions and Provisional Local Medical Committees, and indeed of all members of the Association. On the general point the letter addressed to Sir Robert Morant on May 31st (SUPPLEMENT, June 8th, p. 600) conveyed the decision of the Committee. This was that, acting in accordance with the decisions of the Special Representative Meeting of February, it was impossible for the Association to assist the Commissioners in the manner indicated—namely, by obtaining from various medical committees of the Association the names of representatives for the suggested Provisional Insurance Committees—until such time as the Association is satisfied that the minimum demands of the profession

in regard to the Act are or will be conceded. A further matter considered by the Committee was the position of practitioners who are members of county or county borough councils, and, owing to that membership, are asked to act upon Provisional Insurance Committees. The Committee expressed the opinion that if a member of a county council were appointed by the council to fill a position which could equally well be filled by a layman, and was not appointed as a medical practitioner to fill a position which could only be filled by a medical practitioner, no objection to the acceptance of such appointment could be raised.

MEAT AND MEDICATED WINES.

In an address to the Women's Union of the Church of England Temperance Society on meat and medicated wines, Dr. Mary Sturge suggested that a circular should be issued to the medical profession calling attention to the dangers of these preparations. There is certainly here a good work ready to the hand of temperance societies. The lavish advertisement of these wines could not go on without adequate return; and the attractive baits scattered broadcast in newspapers and magazines connote an indulgence in these wines at once widespread and mistaken. It cannot be doubted that it is the alcohol in them that gives these wines their hold on public favour when once the bait of advertisement has captured a purchaser. A seductive sense of comfort may follow a dose of alcohol, whether the alcohol be taken in the form of wine, or mingled with hot water or malt and meat extractives. Though there has been a steady decrease in male intemperance, there are reasons to suggest that the drink habit among women is either increasing or is not diminishing. Many women slide unconsciously into inebriety, and these much-advertised wines smooth for them the slippery path. *Facilis descensus inebrietatis* ought to be engraven on the label of every bottle. In the belief that they are useful tonics or harmless strength-givers, these meat wines are ignorantly consumed, bottle after bottle. Some, it is said, even regard them as teetotal drinks. And those who, from conscientious motives, could not be persuaded to touch a glass of claret, with its low percentage of alcohol, swallow, without a qualm, glasses of meat or medicated wine containing as much alcohol as there is in port, and sometimes more. Of the samples of well-known brands of meat wine analytical reports on which were published, only two contained less than 19 per cent. of alcohol, and three held over 20 per cent. That the consumption of a drink charged with so high a percentage of alcohol should prove harmful and dangerous is not only what one would expect, but is proved by cases related by Dr. Mary Sturge. One girl got into the habit of taking meat wine, and eventually consumed each day three bottles, which naturally made her drunk. A gentleman, who grew weaker every day, and became unsteady on his legs, always had a bottle in his pocket. As soon as he gave up the "strengthening wine" his strength and equilibrium returned. A woman, who shrank in horror from ordinary wine, turned to meat wine on the advice of a friend, and in five years went to a drunkard's grave. Dr. Sturge's phrase that women are "tricked" into taking alcohol by these wines may often be true. Their use rests upon a thin stratum of distorted physiology, which has the usual seductiveness of a half truth. It is satisfactory to learn that some retail chemists, realizing the harm these highly alcoholized preparations may spread, refuse to stock them. In Birmingham two of the leading chemists will not supply them, an example, we are told, followed by a majority of the chemists of Glasgow. This sacrifice of commercial profit for the good of the commonweal is worthy of recognition. But the ubiquitous grocer steps in where the conscientious chemist refuses to tread; and those in whom the liking for alcohol has been roused by these wines have no difficulty in keeping it alive by recourse to the grocer's counter. We are wont to plume ourselves on our increased sobriety and the beneficent changes which have permeated the nation's habits. The hospitality which dispenses afternoon tea has banished the wine bottle from the drawing-room; but the use of these speciously puffed preparations, more alcoholic than the once proferred wine, are likely to undo much of the good which has resulted from the displacement of the decanter by the teapot. Medical men are cognisant of the dangers of these preparations, and it may be hoped that the education and enlightenment will extend to the public at large. Temperance societies would do a good work by spreading and emphasizing the lessons of Dr. Mary Sturge's address by every means in their power. Medical men should lose no opportunity of enlightening their patients as to the real nature and composition of these wines, and to those bent on taking them the doctor might point out the superiority of good sound wine purchased at a reputable wine merchant's over a bottle of one of these medicated products bought over the grocer's or chemist's counter. The buyers would not only get better value for their money, but would be under no delusion as to the alcoholic constituents of the beverage.

ELLIOT'S OPERATION FOR GLAUCOMA.

Mr. E. Temple Smith of Queensland has recently visited the clinic of Colonel R. H. Elliot in Madras, who is one of the pioneers of the operation of trephining the sclerotic for glaucoma. In a paper published in the *Ophthalmoscope* for May, 1912, he discusses very fully the operation of Freeland Fergus. He endeavours to show that in this operation, which is really a combined trephining of the sclera and cyclo-dialysis, it is impossible, owing to the site of the operation, for the ciliary body to be really detached, as is supposed to be the case. He contends that the instrument which is intended to accomplish this really enters the eye in front of the ciliary body. He also quotes Fuchs, who stated at the Belfast meeting of the British Medical Association that he had given up cyclo-dialysis owing to the fact that the symptoms recurred after it; pathological examination showed that in the situation where the operation was performed the tissues cicatrized, and no permanent communication existed between the anterior chamber and the subchoroidal space. The operation as performed by Colonel Elliot is essentially different from this. He clearly lays down the rule that the trephined disc shall be taken so far forward that from one-fourth to three-fourths of it shall be in the clear cornea. The iris is only dealt with if it prolapses into the hole on the completion of the trephining; this is done in about half the cases. A buttonhole iridectomy is then made by snipping off the prolapsed iris *in situ* with fine scissors; this is done solely for the purpose of preventing the blocking of the wound, otherwise the uveal tract is left completely alone. It will thus be seen that the operations are entirely different. Mr. Temple Smith concludes by expressing the opinion that, if the operation is carried out according to Colonel Elliot's directions and on the lines indicated above, it is the simplest and safest method of obtaining an effective fistulation of the anterior chamber.

MUSIC AS MEDICINE.

In presenting Dr. R. C. Brown, of Preston, for the honorary degree of Master of Arts at Cambridge, in recognition of his benefactions to the new Research Hospital, the Public Orator took occasion to refer to the connexion between medicine and music arising from the fact that Apollo was the father of both Aesculapius and the Muses. On this ground it may be claimed that medicine and music are sister arts. But it is no mere poetic fancy that music is related to medicine. Much has been written in this Journal and elsewhere on the therapeutic effects of music. Some years ago a society called the St. Cecilia Guild was

founded for the purpose of testing its action in various kinds of disease. The movement, though it received countenance and practical help from the late Sir Andrew Clark and other well-known members of the medical profession, had rather a flickering life, and soon died out. Some twelve years ago a similar movement was started in America with the approval, if we remember rightly, of Dr. Peterson, whose name is familiar throughout the world as an expert in mental diseases. The effect of music on a man has been measured by means of the ergograph. Experiment with that instrument has shown that when a lively air was played on a harp the man's tired muscles almost instantly regained their full vigour. The mandolin had the same effect. On the other hand, when a violoncello was used the man's arm became almost powerless, and his vitality decreased. In *Aesculape* for February last, Dr. Leon Demonchy discusses the influence of music on the organism. He says it has been demonstrated that it produces very singular reactions, varying in different persons, in the respiratory and circulatory systems. The degree of expansion of the lung is modified in accordance with the musical rhythm, and the pulse in certain people seems to keep time with the music. In nervous and impressionable subjects the Funeral March of Chopin played in the minor key caused diminution of the pulse and irregularity of respiration. The same piece afterwards played in the major key quickly restored fullness to the pulse and calm and regularity to the respiration. Church music has an effect all its own in bringing back peace and quiet to hearts bruised by the experience of life. But if music can calm, it can also excite. The legend of Orpheus is an expression of a belief in the power of music to excite energy and stimulate effort. We all know the effect of military music; it is recorded that when Napoleon was crossing the Alps he made the bands play when a particularly difficult place had to be passed. The *Marseillaise* and other airs have moved even timid men to deeds of heroism. In the treatment of disease music must be carefully adapted to the individual. There are some who share the feeling of Théophile Gautier that music is only the most expensive of noises. Sir George Trevelyan is careful to record the one occasion on which Macaulay is known to have recognized a tune. In such cases no good effect could be expected from music. It must also be adapted to the morbid condition. In depression lively strains are indicated; for insomnia what Dryden calls a "dying fall" is likely to lull the senses to oblivion. The late Rev. John Kill Harford, Minor Canon of Westminster Abbey, the moving spirit of the St. Cecilia Guild, wrote some music intended to produce this effect. We once showed it to a professional musician much given to "fireworks" in his execution without telling him what it was meant for. On asking his opinion he replied scoffingly, "Why, that stuff would put me to sleep!" He was surprised when informed that that was precisely the effect intended. Mothers and nurses have hit on a special kind of music which takes form in the lullaby. This is all on the medium notes. On deeper notes it has a bad effect on the children and makes them cry. It would be absurd to say that music has a direct curative effect; it does not play the part of morphine or the surgeon's knife. Nevertheless, as Pope says, "Music can soften pain to ease." Dr. Demonchy mentions a case in which a patient suffering from orchitis got relief by dancing all night to the sound of lively music. The music soothed the pain, and the rhythmical movements of the dance reduced the congestion of the inflamed organ! We scarcely think this method likely to be widely adopted. Another effect claimed for music is that it brings the patient to a state of mind that will prepare the way for cure. It is frequently used in our asylums, and has a sedative effect in cases where there is much cerebral excitement. Every year concerts are given at the Salpêtrière in Paris. At present there is a scheme for the organization of concerts in all the Paris hospitals, especially in those where there are patients suffering from mental disorder. Dr. Demonchy looks forward to a time when musicians will write music for a definitely therapeutic purpose, preventive and curative, soothing and exciting, according to the requirements of the case. Experiments made on dogs with a glandular fistula have proved that a difference of a semitone may produce or arrest the secretion of a gland. Haller noted that after venesection the blood flowed faster to the beat of a drum, and, if we are to believe Shakespeare, there are some "when the bagpipe sings i' the nose" cannot contain their urine." But our knowledge of the physiological effect of music is very vague. Nevertheless, an ingenious American, Robert Haven Schauffler—we must apologize if we misspell his name, which we take from an Italian journal—has, it is said, suggested a veritable musical pharmacopoeia. After close observation of the influence exercised by music on different kinds of pains, he, with the aid of expert musicians, compiled what may be called a musical prescriber's companion. For instance, against maniacal depression he recommends Wagner's "Ride of the Valkyrie," and the prelude of Dvorâk's *Carnevale*. In cases of nervous exhaustion following intense work he prescribes the *Moldava* of Smetana, and some songs of Grieg. Against intense grief he suggests the execution of some studies of Chopin, the *Patetica* of Beethoven, and Dvorâk's *Concerti* on the violoncello. Some of Bach's fugues are indicated in cases of mental somnolence consequent on the abuse of alcohol. Furious mania is to be treated by pieces with a solemn movement—as, for instance, the Choir of Pilgrims in *Tannhäuser*. Even for jealousy there is a musical remedy in the Prelude of the *Meistersingers*. Mr. Schauffler is convinced that there is a great future for the musical pharmacopoeia, and that it will not be long before a new class of doctor comes into existence—medical musicians, who after having examined the patient will, instead of a prescription, place in his hands a copy of a musical composition. There are already medical orchestras in Vienna and Paris, but what is here suggested is treatment by doctors who have made a special study of the effect of different kinds of music on different diseases. Should this dream be fulfilled it will add one more to the manifold problems that confront the Insurance Commissioners: What will be the place of the medical musician under Mr. Lloyd George's scheme?

STARCH AS A FOOD FOR YOUNG CHILDREN.

THERE is overwhelming evidence that the digestive disorders to which many young children are subject have resulted from the practice of feeding them upon certain foods largely composed of starch. Hitherto no very great effort has been made to prevent these foods being sold, beyond the general advice which is given to mothers and nurses by doctors and health visitors as to the harmfulness of them. The medical officer of health of the county of Rutland, Dr. Christopher Rolleston, has, however, succeeded in obtaining a conviction before the local justices against a chemist for selling a preparation of infants' food which contained upwards of 70 per cent. of practically unaltered starch, and which was therefore held to be not of the nature, substance, and quality demanded by the purchaser. The preparation was described as being suitable for an infant only a few days old. A dessertspoonful of the mixture was directed to be put into a basin to be mixed to the thickness of a smooth cream with cold milk or water; to this was to be added half a pint of milk and water in equal parts, and it was then to be brought to the boil. It was contended by the chemist that the boiling would convert the starch into sugar, and this view was supported by a member of the Society of Public Analysts. There are some artificially prepared infants' foods in which the

conversion of the starch into saccharine bodies is complete, but they do not contain 70 per cent. of starch. It is not very satisfactory that the harmfulness or otherwise of the preparation should be left to the decision of a local bench of magistrates—a course which may well be compared with that which it is now possible to adopt in Queensland under the provisions of the Health Act of 1911. Section 17 of that Act enables the Health Commissioner to cause to be examined any food which is advertised, for the purpose of ascertaining its composition, properties, or efficiency. He may then report the result of the examination to the Government and publish his report in any newspaper which circulates in the colony. Moreover, the Governor in Council may, on the recommendation of the Health Commissioner, prohibit the advertising or sale of any food which, in the opinion of the Commissioner, is injurious to life or health. Until such enactment is in force in this country it must be left to other medical officers of health to follow the example of Dr. Rolleston.

LIVINGSTONE'S FORESIGHT.

THE medical speaker on the occasion of the commemoration day proceedings at Livingstone College on Wednesday, June 5th, was Sir Havelock Charles, who stated that he did not think that Dr. Livingstone had received due credit for many of the suggestions in his diaries in which discoveries of subsequent workers were foreseen. For instance, on the subject of mosquitos, Dr. Livingstone wrote: "They appear so commonly at malarious spots that their presence may be taken as a hint to man to be off to more healthy localities." Then, again, "None appear on the highlands, on the lowlands they swarm in myriads: and myriads of mosquitos showed, as probably they always do, the presence of malaria." Again, in writing of the sickness caused by the bite of the tsetse fly, he considered it was due to "a poison in the blood"—"the germ of which enters when the proboscis is inserted to draw blood"—"the poison germ is capable of reproducing itself." Again, on the game reservoir question, now under inquiry, he wrote: "It is probable that where the game will perish, as has happened in the South, the tsetse, deprived of food, may become extinct simultaneously with the smaller animals." Sir Havelock Charles also considered that no one could give better advice regarding quinine than that given by Dr. Livingstone in the following words: "Quinine is invaluable in fever and never produces any unpleasant effects in any stage of the disease if exhibited in combination with an aperient." Sir Havelock warmly approved of the spirit of union which prevailed at the college, and said that all missionary societies would be well advised to send their students to take advantage of the opportunities afforded. He asked whether it was morally right for societies to send their men unprepared, willing though they were, to encounter disease, from which instruction would preserve them, while through such ignorance they would perish. He heartily wished success to the Livingstone College. The Principal, Dr. C. F. Harford, stated that the British missionary societies as a whole did not realize the importance of the facilities for elementary medical training offered at the college, and he hoped that the Board of Missionary Study, whose Secretary, the Rev. H. U. Weitbrecht, D.D., was one of the speakers on commemoration day, would be able to lead to a better recognition of the importance of this department of missionary preparation. He stated that a Livingstone Centenary Fund was being inaugurated in view of the centenary of Livingstone's birth in 1913, the sum of £10,000 being needed to clear off the mortgage on the college, to make necessary improvements, and to form the basis of an endowment.

"SHUTTLE-KISSING."

THE report of the joint committee of the Home Office and the Local Government Board on the alleged danger of transmitting certain diseases through the practice of what is known as "shuttle-kissing" is mainly interesting to the medical profession from the negative results reached. No absolute proof could be obtained that any out of the diseases which it had been suggested could be spread, or had been spread, by this means had, with the exception, perhaps, of dental caries, been so communicated. Information could only be obtained with respect to the following alleged instances of transmission of disease—namely, cancer at Oswaldtwistle (1 case), tonsillitis at Rawtenstall (4 cases), tuberculosis at Bacup (3 cases), phthisis at Tyldesley (2 cases), scarlet fever at Burnley (4 cases). None of these cases, however, could bear the brunt of inquiry. A male weaver had been detected with a foul cancerous growth of the mouth, and when he ceased work his looms were taken over by another without any cleansing of the shuttle, but no information could be obtained respecting transmission. As regards the cases of tonsillitis, there was an epidemic in the neighbourhood, and other cases, apart from those mentioned, existed in the same shed, so that, if of an infectious character, there would be no difficulty in two youths (not four), who had worked at the same looms, contracting the complaint in an ordinary manner. Personal investigation did not elicit any evidence definitely incriminating the shuttles, but showed that a girl who also used them was not affected. The 3 cases of tuberculosis at Bacup had undergone such magnification that one London paper had gone so far as to state that "eleven women working on the same looms, who had kissed the same shuttles, in one factory, had died of consumption," so that the committee was very exact in investigating the history of these cases. There was no evidence that the first case contracted the disease from shuttles, and a brother, who worked at the same looms, is still healthy and well; it was shown that the woman had consumed a large quantity of milk from a cow which had died from tuberculosis two years before her own death took place. The second case worked for a short period at the shuttle used by the preceding, but it is pointed out that as the effort is inspiratory—not expiratory—and as the saliva is not infective in this disease, there would be little likelihood of tubercle bacilli being deposited on the shuttle. There was, further, some doubt as to diagnosis, the death being certified to be due to tuberculosis of the peritoneum, whilst she had previously been treated for malignant liver disease; there was no necropsy. With respect to the third case, it is pointed out that if the shuttle had been infected by No. 1, it must have remained infected from September, when she was last at work, to the end of October, when No. 3 began using it, or that if infected by No. 2 the disease must have commenced, developed, and become infective in the short space of one month. Both these propositions are regarded as untenable. Investigation into the Tyldesley case of phthisis showed that a woman who worked with the phthisical weaver contracted the disease, but that "shuttle-kissing" had been the medium of infection was no more than an assumption. The 4 cases of scarlet fever occurred during the height of an epidemic, and other cases arose in the same shed without any apparent connexion with "shuttle-kissing"; it was not suggested that any of these latter led to secondary cases among weavers following them at their looms. Two of the patients were sisters living at the same house. In all the cases there appears to be no doubt that the origin of the disease could be accounted for through the more ordinary sources of infection. As regards the evil that has been made most of—namely, consumption, provided a weaver be in the requisite low state of health which permits of the development of this disease, the necessary bacilli could be picked up more easily and plentifully under common social conditions than through "shuttle-kissing." Reference has been made to saliva being non-infective, and

to the kissing effort being inspiratory, but it is worth while to point out that there are two other factors which tell against the ease of infection. The length of the weft contained in a cop varies, of course, within wide limits, but a very commonly used count will run to about 800 yards. This means that if the cloth is one yard wide, the shuttle pushes its way through the warp 800 times between "kisses." The shuttle itself is made of hard, close-grained wood, and has a very smooth surface, so that whilst there is practically no chance for absorption, any superficially deposited infected material would, it seems probable, be rubbed away as a result of the brushing received during a high-speed journey of nearly half a mile. The other point is that the eye has a portion of its surface rubbed by the weft during the whole of the time the shuttle is working, and in addition gets a complete wipe round at every reverse, that is to say, 800 times during this same journey. Undoubtedly, whilst there is very little in favour of this theory of contamination, there is much to be brought against it. As regards injury to the teeth, the committee is inclined to accept the view that dental caries is promoted by the practice, and, although the evidence is far from clear, the finding is probably correct. At the present time it is being strongly driven home to the public mind that the root of evil is the undisturbed deposit of starch in the various resting places to be found among teeth, and its subsequent decomposition in these positions. The weft contains no starch, but the warp is sized with a mixture of flour and soapy material, and a quantity of this is bound to get into the hollow part of the shuttle when working, and be sucked through the eye by the weaver. Any suitable resting places in the front teeth (which are said to be particularly affected) are kept well supplied with starch during the whole of the working hours. We do not incline to the belief that the lungs are much affected by the cotton fibres; the respiratory diseases which weavers were formerly much more subject to than at present are more correctly ascribed to defective steaming processes. The committee is content to sum up the whole position by quoting a recent resolution passed by the North-Western Branch of the Society of Medical Officers of Health—namely, "that this branch is of opinion that the habit of 'shuttle-kissing,' common in many districts in Lancashire, is objectionable and potentially dangerous to health; and thinks it desirable that means be taken by which the continuance of this practice may be rendered unnecessary." Various appliances are described, and it is thought that the adoption of those which may be considered most suitable may, at any rate for the present, be safely left to the employers.

ST. BARTHOLOMEW'S HOSPITAL.

SINCE Fate has ordained that St. Bartholomew's Hospital must fall into line with its fellows in the matter of begging, it is well that its first donation dinner on June 5th should have been held at such a centre of hospitality and philanthropic effort as has been the Mansion House for centuries past. The circumstances would seem to be a good omen for the success of the new departure. On the roll of St. Bartholomew's have been some of the greatest names in medicine in this country, and in the wards of the hospital, as the Lord Mayor pointed out, medical science in its progressive stages has constantly been focussed ever since the year 1123. At one time there were those who pretended to detect a tendency on its part to rest too much on its laurels; but there is certainly nothing suggestive of undue conservatism at the present date; indeed, the out-patient and pathological departments which were completed a few years ago may be regarded as on the whole almost unequalled, both in design and administration, by any like buildings in the kingdom. The financial difficulties in which it at present finds itself are in some degree due to the purchase some eight years ago of part of the old site of its neighbour, Christ's Hospital. Apart from the direct expenditure involved, the discussion which arose on this project had the unfortunate effect of creating in the public mind an impression that the institution was entirely independent. Whether the policy of the governors at that time was entirely wise is a question upon which there is, perhaps, room for difference of opinion, but in any case they had the support of a committee of independent business men and others who inquired into the matter, and there can be no doubt whatever that the claim of its treasurer, Lord Sandhurst, that the present management of the institution is proper and economical is fully justified. Despite this fact, there is now, besides a bank overdraft of some £57,000, an annual deficit of between £7,000 and £8,000, this being due partly to interest on building outlay in connexion with the two new buildings already mentioned, partly to corresponding efforts to keep abreast with scientific progress, and partly to a fall in the income derived from landed estates. In the course of the evening it was announced that the donations and annual subscriptions promised for a definite number of years represented a little over £33,000. Many of the larger donations came from the City guilds, whose close connexion with the hospital was interestingly described by Dr. Norman Moore in proposing a toast in their honour. Other speakers whose remarks helped to build up the case for generous support of this institution were Dr. Samuel West and Mr. Bruce Clarke, who spoke for the visiting staff. The toast to the latter was proposed by the Bishop of London, who mentioned that a predecessor of his had helped to secure the site of the hospital many hundred years ago. The concluding toasts were to the visitors, moved by Sir Alfred Cripps and acknowledged by Lord Aldenham, and to the Lord Mayor, whose professional knowledge of the merits of the hospital and its needs was, no doubt, one factor in his decision to give the appeal a send-off in the way of a Mansion House dinner. In acknowledging this toast, which was moved by Lord Hollenden, Sir Thomas Crosby said that the hospital was much indebted to Sir William Soulsby, C.B., C.I.E., for work in connexion with the appeal. The honorary secretary of the committee is Mr. Edwin Layton, of whose energy and enthusiasm over his task due acknowledgement was made.

SCIENTIFIC RESEARCH FOR THE LOCAL GOVERNMENT BOARD.

THE President of the Local Government Board has authorized the following special researches to be paid for out of the annual grant voted by Parliament in aid of scientific investigations concerning the causes and processes of disease: (1) Further investigations (*a*) as to the distribution of tubercle bacilli in children having died between the ages of 2 and 10 years, and the special characteristics of such bacilli; and (*b*) in collaboration with the General Register Office, on the incidence of different forms of tuberculosis in different parts of the country, according to age, sex, occupation, and other conditions. (2) A continuation of a research into the causes of premature arterial degeneration in man, by Dr. F. W. Andrewes, of St. Bartholomew's Hospital. (3) A joint investigation into the virus of poliomyelitis, by Drs. F. W. Andrewes and H. M. Gordon, of St. Bartholomew's Hospital. (4) A continuation of an investigation into the micro-organisms known as non-lactose fermenters occurring in the alimentary canal of infants, by Dr. C. J. Lewis, of Birmingham University, Dr. D. N. Alexander, of Liverpool University, and Dr. Graham-Smith, of Cambridge University. (5) A continuation of the investigation by Professor Nuttall, of Cambridge University, on fleas, and on the range of flight of the domestic and allied flies.

THE INSURANCE SCHEME.

STATE SICKNESS INSURANCE COMMITTEE.

Twelfth Meeting.

THE twelfth meeting of the State Sickness Insurance Committee was held on June 7th.

Mr. T. JENNER VERRALL was in the chair, and the members present were: *England and Wales:* Dr. R. M. Beaton (London), Dr. John Brown (Bacup), Dr. T. M. Carter (Westbury-on-Trym), Dr. R. E. Howell (Middlesbrough), Miss Frances Ivens, M.S. (Liverpool), Dr. Constance E. Long (London), Dr. R. A. Lyster (Winchester), Mr. James Neal (Birmingham), Dr. H. F. Oldham (Morecambe), Dr. James Pearse (Trowbridge), Dr. E. O. Price (Bangor), Dr. Lauriston E. Shaw (London), Dr. Johnson Smyth (Bournemouth), Dr. D. F. Todd (Sunderland), Mr. E. B. Turner (London), Dr. A. H. Williams (Harrow on the Hill), Mr. D. J. Williams, F.R.C.S. (Llanelly), Mr. E. H. Willock (Croydon). *Scotland:* Dr. J. Adams (Glasgow), Dr. Bruce Goff (Bothwell), Dr. R. McKenzie Johnston (Edinburgh), *Ireland:* Dr. Mark Cahill (Belfast), Dr. J. S. Darling (Lurgan). *Ex Officio:* Dr. J. A. Macdonald (Chairman of Council), Dr. E. J. Maclean (Chairman of Representative Meetings), Dr. E. Rayner (Treasurer).

Apologies for absence for unavoidable reasons were received from the President, Dr. S. Hodgson (Salford), Dr. J. Munro Moir (Inverness), Dr. D. G. Thomson (Thorpe, Norfolk), Dr. A. G. Dampier-Bennett (Dublin).

We are enabled to publish the following account of the proceedings in anticipation of the confirmation of the minutes.

VACANCY ON COMMITTEE.

THE CHAIRMAN OF REPRESENTATIVE MEETINGS stated that as the result of the voting by representatives of constituencies concerned, Dr. Dampier-Bennett, Dublin, had been appointed to fill the vacancy upon the Committee created by the resignation of Dr. F. W. Kidd.

ADJOURNED MEETING.

In the absence of Mr. Verrall, who was attending the General Medical Council, Dr. MACLEAN took the chair.

PROVISIONAL MEDICAL COMMITTEES.

It was reported that 188 Provisional Medical Committees had been formed, an increase of 15 since the last meeting.

PROPOSED CONFERENCE WITH COMMITTEE OF LICENSING BODIES OF ENGLAND.

The question of co-operation with the joint committee of the licensing bodies of England was again raised. At its meeting on March 21st, 1912,[1] the Committee had adopted a resolution in which it stated that it would welcome the co-operation of the joint committee of the licensing bodies of England, and suggesting that the best form that such co operation could take would be to hold a conference for discussing any matters as and when occasion arose. The Committee was now informed that, as stated last week, a meeting of the joint committee had been held, and had resolved to hold a conference of representatives of the medical staffs of the various London hospitals on June 14th. Under these circumstances the further consideration of the matter was postponed.

LOCUMTENENTS.

Resolutions from the Wandsworth Provisional Medical Committee, stating that the medical practitioners in the area had refused to engage any locumtenent who had not signed the pledge, and recommending the State Sickness Insurance Committee to bring the matter under the notice of other Provisional Committees, were considered. The Committee expressed approval on both heads, and on consideration of a further resolution from the same Provisional Committee resolved to inform the medical agents of the action being taken by the Association in endeavouring to influence members not to engage locumtenents who had not signed the pledge of the Association, and pointing out that it would probably be to the advantage of medical agents similarly to ensure that all locumtenents supplied by them should have signed the pledge.

[1] BRITISH MEDICAL JOURNAL, March 30th, 1912, p. 749.

MEDICAL PRACTITIONERS AND PROVISIONAL INSURANCE COMMITTEES.

A communication was read from the Honorary Secretary of the Reading Provisional Medical Committee, and the Committee adopted the following resolution:

> That the Honorary Secretary of the Reading Provisional Medical Committee be informed that, so far as invitations from the Commissioners are concerned, the decision of the Committee was conveyed to the Commissioners in a letter of May 31st, published in the BRITISH MEDICAL JOURNAL of June 8th,[2] but that, so far as practitioners are concerned who are members of county or county borough councils, and who are appointed by their councils *qua* members to fill positions which could equally well be filled by laymen and not *qua* medical practitioners to fill positions which could only be filled by medical practitioners, the Committee raises no objection to the acceptance of such appointments.

REMUNERATION.

Arising out of the deputation that morning to the Insurance Commissioners, the question arose whether the Committee should forward to the Insurance Commissioners before the next meeting (June 12th) information in the possession of the Association supporting the demands for a capitation fee of 8s. 6d. It was resolved that the Committee should forward such information, and it was left to Mr. Verrall (Chairman of the Committee), Dr. Pearse (Chairman of the Remuneration Subcommittee), and the Medical Secretary to prepare such a statement, and forward it to the Commissioners.

PUBLIC MEDICAL SERVICE SCHEMES.

The Medical Secretary reported that the Public Medical Service Schemes had been submitted to counsel and to the Solicitor of the Association, that certain alterations had been made in the form of the schemes; that the Special Subcommittee appointed (Minute 374, Meeting, May 6th, 1912) to settle and finally issue the schemes had approved these alterations; that the schemes would appear in the SUPPLEMENT of the BRITISH MEDICAL JOURNAL of June 8th, 1912; and that the attention of Provisional Medical Committees and Divisions had been specially drawn to the matter as demanding their urgent consideration. The Committee approved the action taken by the Special Subcommittee in issuing the schemes.

Thirteenth Meeting.

The thirteenth meeting of the State Sickness Insurance Committee was held on the morning of June 12th.

REMUNERATION.

The Committee had before it a memorandum on the amount of remuneration of medical practitioners under the Insurance Act which had been drawn up by the Subcommittee in accordance with the resolution of the Committee on June 7th (see above). This memorandum, which will be reported to the Divisions and the Representative Meeting, contained an analysis of the figures put to the Committee by the Chancellor of the Exchequer at the deputation on June 7th, and further evidence based on conditions of present contract practice, pointing out the defects of the system and the deficient remuneration. The memorandum had been placed in the hands of the Chancellor of the Exchequer on the previous day, and its terms were approved by the Committee and a cordial vote of thanks passed to Mr. Verrall and his colleagues on the subcommittee.

SANATORIUM OFFICERS.

The Committee had before it a communication from the Scottish Medical Insurance Council asking its opinion with regard to the attitude to be adopted with reference to the appointment of sanatorium officers under the Insurance Act. The inquiry asked whether the decision would be affected by the circumstance that the appointments are offered by county councils of Insurance Committees. In considering the matter, the Committee had before it Minute 78 of the Special Representative Meeting of February 22nd, 1912, as follows:

> That it be an instruction to the Council to take all possible steps to ensure that no member shall take any office or work under the National Insurance Act other than that of the Advisory Committee until such time as the minimum demands of the profession are conceded in the regulations or an amending Act.

[2] SUPPLEMENT, p. 600.

Having regard to this resolution, the Committee decided that, in view of Minute 78 of the Special Representative Meeting, *no medical appointment* be accepted for the administration of sanatorium benefit until such time as the minimum demands of the profession are conceded.

The Committee after transacting some further business, which will be reported, adjourned at 9.15 p.m.

DEPUTATION TO THE CHANCELLOR OF THE EXCHEQUER.

June 7th.

As stated in the report published last week, p. 1239, the Committee in expressing its inability to comply with the request of the Insurance Commissioners to obtain from various Provisional Medical Committees of the Association the names of representatives for the suggested Provisional Insurance Committees until such time as the Association was satisfied that the minimum demands of the medical profession in regard to the Act had been or would be settled, had intimated to the Commissioners that if it would be of any assistance to them to have an immediate conference with the Committee the Committee was quite prepared to place itself at the disposal of the Commissioners. To this intimation the following reply was received:

National Health Insurance Joint Committee,
Buckingham Gate, London, S.W.,
June 3rd, 1912.

Sir,

In reply to your communication of the 31st ultimo, the Commissioners have pleasure in stating that the deputation which your Committee propose to send to the Commission to obtain information on the two points specified at the commencement of your letter will be received here on Friday next at eleven o'clock.

I am, Sir,
Your obedient servant,
(Signed) W. J. BRAITHWAITE.

The Medical Secretary,
British Medical Association,
429, Strand, W.C.

The Committee thereupon, at its meeting on June 7th, resolved to accept the invitation, and that the whole of the members present attend such deputation.

The Committee accordingly adjourned and proceeded as a deputation to the offices of the Insurance Commissioners.

The deputation was received by the Chancellor of the Exchequer, who was accompanied by Mr. Masterman, Sir Robert Morant, and certain members of the English, Scottish, and Welsh Commissions. At an early stage, owing to the crowded state of the room, the deputation left the offices of the Insurance Commissioners, and the interview was continued at the Treasury, Mr. LLOYD GEORGE being in the chair throughout. A brief report was issued to the press, as follows:

At the request of the Chancellor, the members of the deputation elaborated and defined the demands stated in the letter in question, and in the course of the discussion the Chancellor found himself able at once to state that on several of these points the Act and the regulations to be made under it would secure the objects which the profession had in view, while on others further discussion would be necessary.

On the important point of the amount of remuneration for medical services under the Act, the Chancellor pointed out that the Government had acted on the information available to them in framing their original estimates, and that, when challenging that estimate as inadequate, and demanding a rate of remuneration of "8s. 6d. as a *minimum* capitation fee not including extras and medicines," the representatives of the profession might reasonably be expected by the Government to furnish the facts and figures on which they based this higher demand.

It was finally arranged that the deputation should meet the Chancellor again next Wednesday, and would then lay before him the facts in their possession in support of their claims. The proceedings closed at 2 p.m.

June 12th.

The Committee again attended as a deputation on June 12th, and had an interview with the Chancellor of the Exchequer, at 3.45 p.m., at the House of Commons. The Chancellor criticized the memorandum prepared by the Association paragraph by paragraph, and recurred to his request that the Association should furnish facts and figures upon which it based its higher demand. He desired information with regard to the conditions and remuneration of actual practice at the present time among the industrial classes, and proposed that an independent actuary be appointed to investigate the books of all practitioners in certain towns in Great Britain. He appealed to the Association to assist him in inducing medical practitioners to allow such an investigation to be made, and agreed to send a copy of the report made by the actuaries to the State Sickness Insurance Committee at the same time as it was submitted to himself. The interview did not lead to any conclusive results, and the rumour published in certain papers that a settlement had been arrived at on the basis of an 8s. 6d. capitation fee to include the provision of drugs is altogether incorrect. No such offer was made, and had it been made the Committee was not in a position to accept it, and could not have done more than receive it for report to the Divisions and the Representative Meeting.

The Committee resumed at 6.30, when it received the following letter from Sir Robert Morant:

National Health Insurance Commission (England),
Buckingham Gate, London, S.W.,
12th June, 1912.

Sir,

I am directed by the Chancellor of the Exchequer to advert to the Memorandum forwarded by your Association on Monday last regarding the question of medical remuneration under the Insurance Act. In that Memorandum your Association put forward arguments in support of the Association's demand for a general capitation fee of 8s. 6d., to which (as is shown) is to be added remuneration for certain extra services and the cost of provision of drugs and appliances. You will remember that, in reply to the Chancellor's request at the conference this afternoon for the facts on which the Association based its views as to the figures in your Memorandum, it was admitted that facts were not, as yet, available (except for certain small sections of the subject) as a basis for those estimates. The Chancellor accordingly indicated that in his view an investigation was clearly necessary in order that ascertained facts might be made available as regards existing conditions in respect of medical attendance and remuneration, without which facts it is not possible for the Government or Parliament to form a considered judgement as to those demands.

I am now directed to forward you a Memorandum, prepared in accordance with the request made by your Committee this afternoon, indicating the nature of the facts required.

I am to add that the statement of facts arrived at by the Investigator in the case of each of the towns will be placed at the disposal of your Association at the same time that they will be given to the Chancellor, and that it will, of course, be open to your Association to use the facts in whatever way may seem to you best for your purposes.

It will, of course, be understood that no names will be given in the Investigator's reports, and that every step will be taken to secure that all information as regards individuals shall be kept strictly confidential by the Investigator and his assistants. As requested by your Committee, each practitioner will be given an opportunity of considering and making observations on the Investigator's Abstract of the facts relating to his own practice before the Investigator submits to the Government any report based on those facts.

The expenses incurred by the Investigator will be borne by the Government.

The Chancellor would also be glad if your Association would place at his disposal, in further illustration of your last Memorandum, any facts already in the possession of your Association that would throw light upon existing conditions of medical practice and remuneration, whether as to types of practice or particular practices. And he considers it would be useful if, by circularizing the members of your Association or otherwise, you would let him know the actual facts at the present time in regard to the question on which various views were

expressed this afternoon — namely, the number of Assistants now employed in professional practice.

The Chancellor requests that, in order to save time, you will let him know at once should you find any reason for preferring to substitute some other town for any one of those suggested by him. I am also to ask that you should furnish him with the name of an Accountant whom your Association would regard as suitable for the purpose in view, or three names of which the Chancellor might select one, if this be preferred.

You will observe that, in view of the difficulties pointed out this afternoon by your Association as likely to cause delay in attempting to distinguish those who are in future likely to be insured from the rest of the population, it is recognized to be necessary that no section of the population be excluded from the scope of the inquiry in the towns named, and the instructions to the Investigator have been drafted accordingly.

I am,

Your obedient servant,

Robert L. Morant.

Memorandum.

Proposed instructions to the Investigator to be appointed by the Chancellor to inquire into existing conditions of medical work and remuneration.

1. The object of the inquiry is to ascertain certain facts as to the total medical attendance given under existing conditions by all the medical practitioners of certain specified towns to the total population of those towns, and the total income received by the total practitioners of those towns in respect of such medical attendance.

2. The towns to which the inquiry is to relate are to be six in number. The selection will be determined by the Commission after consultation with the Committee of the Association.

3. The particulars required are to be ascertained from the books of the medical practitioners of those towns and from certain other sources specified herein in respect of the years 1910 and 1911.

4. The particulars both of work and remuneration relating to persons residing outside the towns named, who employ as their ordinary medical attendants practitioners resident in those towns, must be stated separately from particulars relating to attendance given to, and money received from, residents of the towns.

5. Particulars, if any, of services rendered to patients attended under contract in respect of a capitation fee, and in respect of any part time public or other medical appointment, and of remuneration received in respect of such services, must be kept separate from work done and remuneration received in the course of ordinary private practice.

6. The particulars as to work are to show separately:
   - (*a*) Visits paid at the patient's house.
   - (*b*) Attendance on the patient at the doctor's surgery.
   - (*c*) Medicines supplied.
   - (*d*) Operations and other services in respect of which special fees are charged.
   - (*e*) Certificates and reports for the furnishing of which a charge is made.
   - (*f*) Fees for attendance at coroners' inquests; work such as giving evidence at law courts which are not part of medical treatment, and in respect of which fees are received. And
   - (*g*) Any other properly separable items of medical services.

7. The particulars of remuneration received should show—
   - (*a*) The gross income of the practice from all sources.
   - (*b*) The ordinary fees charged to patients.
   - (*c*) So far as ascertainable the amount of bad debts.
   - (*d*) Deductions that should be made from gross income, to arrive at net income, in respect of—
     - (i) Cost of drugs and other materials supplied to the patients.
     - (ii) Salaries of assistants (if any) [each assistant to be stated separately and whether indoor or outdoor].
     - (iii) Cost of collection of accounts.

8. Particulars of patients attended in hospitals and other charitable institutions, and in Poor Law infirmaries, to be obtained by the Investigator from the authorities of the institutions.

The Committee having considered the letter resolved to inform the Commissioners that it was prepared to give them every possible assistance in the collection of the information desired, but at the same time to point out to the Commissioners that the Committee had no power to make practitioners throw open their books for investigation, though it was prepared to advise practitioners in the selected towns to assist in the collection of the information.

Medical Notes in Parliament.

[From our Lobby Correspondent.]

The Local Government Board.

The vote for the expenses of the Local Government Board came on, as arranged, last week, but, although it produced a very lively and critical debate, it ended inconclusively, and the money will probably be voted without further discussion. Many members feel that this is very unsatisfactory, as there is no department which has more to gain by adequate debate.

Sir A. Griffith-Boscawen, who opened the discussion, moved a reduction of £100 in the salary of the President of the Board in order to call attention to the administration of the law relating to housing. There were two great branches of the housing problem—namely, the rural and the urban. In regard to the rural problem, the incontestable fact was that in many parts of England it was quite impossible to obtain decent, sanitary houses. In many villages there was a large number of insanitary dwellings which might be closed and demolished under the Housing and Town Planning Act, but that could not be done because there were no other houses for the people to live in. As regards the urban aspects of the problem, slums must be stamped out. About 200,000 deaths a year were attributable to overcrowding. A housing policy on the part of the Local Government Board was lacking. What was urgently needed was a special expert department, having an intelligent policy and power to make suggestions to the local authorities. He had ventured to submit such a proposal in a bill which he had brought in.

Mr. Hills, who seconded the motion for reducing the vote, criticized the department for slowness in reforming Poor Law administration. In spite of urgent appeals, there were still some 9,000 healthy children of school age in the workhouses. At the present rate of progress he calculated that it would take the Board twenty to twenty-five years to get them out.

Mr. Allen, Mr. W. Guinness, Mr. Bentham, and Lord H. Cavendish Bentinck followed, and all condemned the want of progress in rural and urban housing.

Sir A. Spicer spoke strongly in favour of better administration for Poor Law children.

Mr. Astor complained of the neglect of the President of the Local Government Board to deal with the Poor Law system. The right hon. gentleman claimed that the Old Age Pensions Act and the Insurance Act had each carried out some of the recommendations of the Poor Law Commission, but Mr. Astor maintained that the right hon. gentleman had no right to bring forward such a plea, more especially in regard to the problem of the feeble-minded. The system under which these people were dealt with had been condemned by all the experts who had looked into it and by a Royal Commission, yet the right hon. gentleman had done nothing to give the local authorities a lead or to make them recognize the importance of the problem.

Mr. Peto called attention to the case of the vaccination officers. Mr. Lansbury supported him, and then spoke of the feeding of school children.

Dr. Addison supported the appeal made on behalf of the vaccination officers whose salaries had been reduced by the action of Parliament. He drew the attention of the Committee to the condition of our milk supply, which he described as deplorable. In our existing legislation there was nothing which was in a more hopeless tangle than the law with regard to milk, and what was wanted was for the Local Government Board to bring forward a national scheme on simple and uniform lines.

After some other speeches, all critical,

Mr. Burns rose to reply to the three and a half hours' criticism. Answering first the questions put last in regard to the milk supply, he stated that the President of the Board of Agriculture and himself hoped to pass this year the Milk Bill introduced on a former occasion. It was probable that the measure would be less contentious now because the interval of time since this legislation was first proposed had enabled interests which appeared to be almost irreconcilable to adjust their differences. In regard to the milk and cream regulations, he undertook that the various interests affected should be made aware of the intention of the new order before it was enforced. As to the milk supply, there was a great deal that local authorities could do under existing powers. How much could be done by good administration was seen in London, where last year 1,144 milkshops were struck off the register because the premises were unsuitable, the authorities responsible for the action taken being the borough councils, the London County Council, and the Local Government Board. Explaining the preparations made by his department for the administration of the Insurance Act on the public health side, he said that as soon as there were signs that the measure would be passed directions were given respecting the operation of the clauses relating to tuberculosis and sanatoriums. Steps had been taken to ascertain from local authorities the number of beds they had for patients and the number wanted, and the information collected had been placed at the disposal of the Treasury and the Insurance Commissioners. With regard to the question of outdoor and indoor relief children, he said that the Durham Union had taken two houses in different parts of the city for their thirty-one children; and a number of the adjoining unions, including Sunderland, Hartlepool, and Hexham, either had transferred their Poor Law children from their workhouses or were engaged in doing so. He held that there was no place like London for experiments as to the treatment of vagrants and casuals. It was impossible to have a satisfactory state of things so long as twenty-four boards of guardians worked on different plans. He had, therefore, centralized the work and made the Metropolitan Asylums Board the body for dealing with this part of the Poor Law problem. The various authorities were working most heartily together, and he trusted that out of this system of centralization a plan of dealing with casuals might be evolved which might apply to other parts of the country. Of the three cardinal points in the Minority Report—namely, labour exchanges, insurance against unemployment, and the introduction of day training centres—two had been carried out by a Government department. The introduction of day training centres was not the work of the Local Government Board, but lay with the Board of Education on the educational side, and on the criminal side with the Home Office, but there, again, he maintained that considerable progress had been made. Much had been done by segregation, by special classification, and by special treatment during the last year or two to deal with the feeble-minded persons under the care of the boards of guardians. Boards had been combined for this purpose, and existing buildings, which were not so full owing to old age pensions and other reasons, had been used. It had been said that the pauper lunatics had increased from 111,000 to 121,000, but the actual increase in lunacy was not commensurate with the statistical increase. Lunatics, who years ago were allowed to wander round the countryside, were now gathered into institutions. There was reason to hope for a diminution in lunacy, seeing that the drink bill had dropped 25 per cent. in ten years, and £40,000,000 less was now spent on intoxicating liquor. Another remarkable fact was that lunatics were now far less violent, and even in large asylums there were often several months when there were no padded-room cases. There had been a large reduction in the number of children in workhouses during the last four or five years. In London there were practically no children in the workhouses who could safely be detached from their mothers. London had solved the problem, and the methods which had been successful there would be forced upon recalcitrant boards of guardians. In some areas 50 to 70 per cent. of the accommodation in hospitals for infectious diseases was not required, and where possible it had been used for the treatment of sick children on outdoor relief. In two institutions alone 9,000 children had been treated in two years. It had been asked whether it would be possible for children of school age to go to the education authorities. There was no evidence that the education authorities were willing to do the work, but they would consider it when they discussed the prevention of overlapping. There had been a diminution from fifty to seventeen in the past year in the number of workhouses used as places of detention, and he hoped the number would be further diminished. It had been urged that children dependent on out relief ought to receive more relief than they were now getting. Generally speaking, that was true, and the Local Government Board was doing everything within its power to persuade, and, in some cases, to compel, the guardians to treat widows with children more liberally. Of course, it was necessary that precautions should be taken to ensure that the increased amount really went to the children. It was also necessary to see that it was not, as had happened in the East End of London, taken advantage of by employers to establish sweating wages. The suggestion that boards of guardians should be allowed to subscribe to care committees to take over the children who now received outdoor relief should be taken into consideration. There had been twelve formal complaints under the Housing Act. Of these, seven had been inquired into, and, as a result, houses were being provided in three cases. The Local Government Board had never said, and did not intend to say, that everything was right in the matter of housing. Considering the short time the Housing and Town Planning Act had been in operation, and the slowness with which some local authorities, including even the London County Council, moved, he thought that, on the whole, reasonable progress had been made. He could not accept the suggestion that three housing commissioners should be appointed; but he might appoint four or five housing inspectors, who would do more good in one year than the hon. member's three commissioners would do in five or six years. The amount of loans sanctioned in no sense represented what had been done in the way of the provision of housing accommodation. To take as the measure of housing reform what local authorities themselves did was entirely to ignore what private enterprise was doing, and which was seventy or eighty times more than what local authorities attempted. It was quite true that only one town-planning scheme had been finally sanctioned. But one of the chief merits of the Act was that they could peg out the whole county into possible town-planning schemes, and he was more concerned to get local authorities to suggest, as they had suggested, town-planning schemes than he was to give final sanction to one, two, or even half a dozen schemes. The case of the vaccination officers lay in a nutshell. There were 1,420 vaccination officers, of whom only 61 had made complaint. Of these, 41 had been compensated by boards of guardians since the complaints were made, and in two other cases the guardians had been compelled by him to give compensation. In eight cases no compensation had been given, and the remaining ten cases were under consideration. Apart from these 61 cases a large number of vaccination officers had received fees or gratuities by way of compensation for loss of income. These men had been treated not only fairly, promptly, and generously, but they had received more consideration than they ever asked for.

At this point the debate was interrupted by the motion for adjournment over the transport workers' strike. Mr. Hunt was speaking at the time, and continued his speech when the motion for the adjournment was withdrawn. Mr. Hunt called attention to the London Meat Market, and Mr. King, who followed, asked about the census.

Mr. Burns stated that the complete census would be delivered to the public not later than the middle of July next, and that therefore it was not considered advisable to go to the expense of reprinting the preliminary census. The vote had not been obtained at 11 o'clock, when the debate stood adjourned under the standing order.

The Housing of the Working Classes Bill.—This bill still continues its eventful career in Grand Committee. When its consideration was resumed after the Whitsuntide recess the question of the relaxation of by-laws was resumed. The Government met the relaxation proposed

in Clause 6 limiting it to schemes proposed by a local Authority and approved by the Local Government Board. Sir R. Baker moved to amend the amendment by extending it to private schemes. This was strongly opposed by Mr. Burns, who said the effect of the amendment would be to cover the country with cheap and nasty buildings. Sir R. Baker then moved the closure, which was carried by 16 to 14, and the amendment passed by the same numbers. The Chairman said the Clerks had pointed out that the closure to be effective had to be carried out by 20 votes for it, but under the circumstances he ruled that the voting on the amendment was in order. Sir Griffiths-Boscawen said he supposed the Government would next reject the amended clause, which would destroy the bill. Mr. Lewis protested against this remark, and said the responsibility would rest with those who had amended the bill too strongly.

The Vote for Education.

This vote, amounting to some 14½ millions, was before the Committee of Supply on Thursday of last week, and the new Education Minister, Mr. J. A. Pease, made the usual statement. His speech was a straightforward, practical account of the work of his Department. He devoted some time to the feeding of the children and to medical inspection and treatment. He said: I want for a moment to touch upon the medical branch, which, I think, is one of peculiar interest. The number of meals given to school children in the country throughout the past year was 16,872,000. In London 9,138,000 meals were given to the children attending the schools. The cost of the food was £89,600, and the other cost in connexion with the provision of these meals was £63,000, making a total of £153,000, and we only recovered from the parents voluntary contributions of £1,370. Sir George Newman's report, I think, has been read by a great number of Members in this House, as well as being interesting to a great number of people outside. I do not propose to deal with many matters to which the report relates, but I may remind the Committee what was the result of the medical inspection of the children. It proved that 10 per cent. of the children in attendance at our elementary schools were defective in eyesight, 4 per cent. were defective in hearing, about 7 per cent. suffered from adenoids or enlarged tonsils, 40 per cent. were suffering from decayed teeth, 35 per cent. were verminous, and 1 per cent. were tuberculous, and between 1 and 2 per cent. had heart disease. I am glad to say the local education authorities have already been doing a good deal to try and deal with the ailments of these children. Seventy-eight authorities have established nurses, seventy-two authorities are practically giving free spectacles to the children who require them, children are treated by twenty-two authorities in their hospitals, and forty-eight authorities have already established clinics. I have secured from the Treasury a grant this year of £60,000 to help and encourage the local education authorities in treating these ailments, and I believe that amount will have to be extended in the years to come. The House has so far been kindly disposed in not criticizing me too much in regard to the regulations which I have circulated in connexion with the distribution of this £60,000. It is the first year we have had at our disposal any grant to help the local education authorities in treating children for their ailments. I have indicated in those regulations and by replies to questions in this House that as a general standard we hope to be able to pay £1 for £1 in connexion with the work done, but during the first year we desire a certain amount of latitude to be given by the House, because we are not quite sure how much work may be undertaken during the current year by the local education authorities, and we shall have to do the best we can with the £60,000 at our disposal. I may perhaps be allowed to say one word in connexion with the care committees. A large number of care committees have been established throughout the country to look after the children and to act as go-betweens between the local education authorities and the parents and to try and assist children who have to be operated upon or who require attention. There are in London in connexion with this work 990 committees, and there are 6,500 individuals who are already sacrificing a great deal of their time in voluntarily undertaking this work on behalf of the elementary school children in London. They are doing excellent work, and I think we are fortunate in having in our country so many people ready to come forward and do this kind of work. More strength to their elbow. I should like to say one or two words with regard to the mentally defective. There are 48,000 mentally defective children of school age, and of those we believe that about 32,000 are educable. Of the 32,000 that are educable, about half can be treated in special schools, and be taught to maintain themselves and become satisfactory and excellent citizens. If they are not treated in special schools, they will degenerate and become, as they do now, to a large extent, wasters. They may tend to become criminals and help to fill our gaols, or they may tend to become imbeciles and help to fill our asylums, or they may tend to become paupers and help to fill our workhouses. Therefore, from a national investment point of view, it is of importance that everyone should do their best to try and see that special schools are created in this country with a view of educating all the children who are apparently mentally defective but who are educable. One-third of these children, I say, can be taught to maintain themselves, one-third can be taught to partly maintain themselves, while one-third are uneducable and will have to be treated by the authority that is about to be set up for the mentally defective by the bill which I trust may before many weeks be passed through Parliament. I admit in connexion with this matter that more money ought to be given by the State, and I am glad to say that at the present time the Government are considering how they can encourage local education authorities to build special schools in order to look after the educable mentally defective children. The discussion lasted the whole sitting after an interruption on a motion for the adjournment, and in the end, like the Local Government Board vote, the money was left over for further debate.

Tuberculosis in the Navy (Writers).—Mr. Middlemore asked whether tuberculosis was more prevalent among writers than any other class in the navy; and, if so, whether this was shown to be attributable to the badly ventilated and lighted offices in many of His Majesty's ships. Dr. Macnamara said that the ratio of cases of tuberculosis per 1,000 of all ranks in 1909 was 2.83; of naval writers, 2.54. The ratio per 1,000 of all ranks in 1910 was 2.29; of naval writers, 3.84. No inference of any particular value could be drawn from these ratios, as the total number of writers borne compared with the total of all ranks was small. In 1909 the total number of writers borne was 787 with two cases of tuberculosis. In 1910 the total number was 782 with three cases.

Malay States: Sanitation.—Mr. McCallum Scott called the attention of the Secretary of State for the Colonies to the report of the Selangor Health Department, and to the difficulties and obstruction offered by certain planters to sanitary regulations, the neglect of the medical inspection of the labourers' dwellings, and asked what steps he proposed to take. Mr. Harcourt said he had seen in the press an extract from the report to the effect quoted in the question. He had no doubt that the Local Government would take any steps that might be necessary or desirable.

Tuberculosis Grant.—Mr. Sanders asked the Chancellor if his attention had been called to the recommendation made by the Departmental Committee on Tuberculosis that any scheme dealing with that problem should provide institutions and methods available for the whole community; whether any portion of the £1,500,000 set apart last year for the treatment of tuberculosis would be available for the treatment of non-insured persons; whether capital grants to be made in accordance with the report of the Departmental Committee would be available for beds to be occupied by non-insured persons; and, if not, was the cost of providing the necessary accommodation for non-insured persons where charitable institutions did not exist for the treatment of tuberculosis to be made entirely out of the county rates. Mr. Masterman said that the answer to the first three parts of the question was in the affirmative. The fourth did not therefore arise.

England and Wales.

[*FROM OUR SPECIAL CORRESPONDENTS.*]

LEEDS.

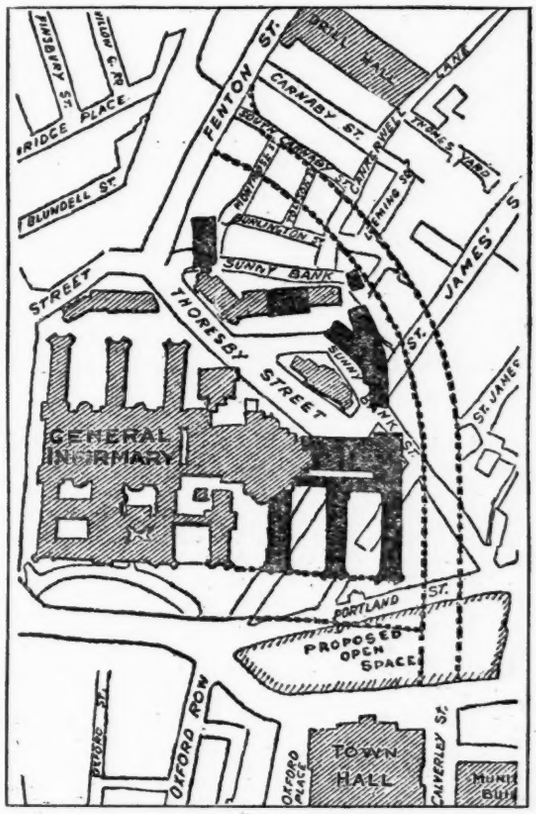
KING EDWARD MEMORIAL.

Extension of the General Infirmary.

IT will be remembered that the great memorial to King Edward in Leeds is to take the form of substantial extensions and improvements in the general infirmary, and in these columns some indication of the ideals of the board of management has already been given. These comprise the provision of additional ward accommodation, so that a greater number of in-patients may be dealt with, the building of a new suite of operating theatres, the provision of additional accommodation for nurses, and the modernizing of the existing wards and of other parts of the buildings which, it must be remembered, were opened in the year 1868.

Some of these ideals have been attained; thus eight of the large wards have been thoroughly overhauled and are now all that could be desired, the block which was damaged by fire has been opened for work for some time, and its reconstruction has secured an addition of thirty beds to the infirmary, and some increase has been effected in the accommodation for nurses.

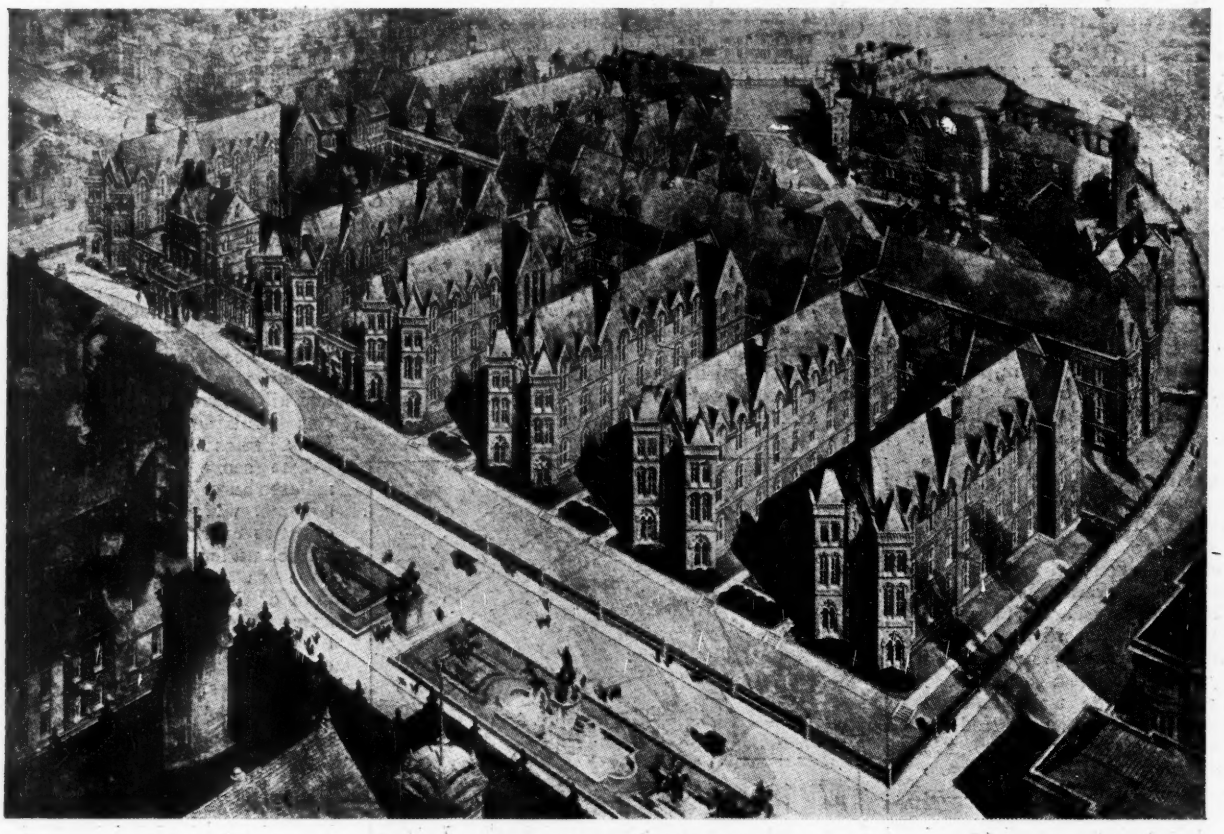
Before these alterations and extensions were decided upon a careful consideration was given by the board to the capabilities of the present site of the infirmary for any future and possibly extensive developments. Surrounded as it is by thoroughfares, any extension in continuity with the present site did not at first occur to any one as possible. It is true that the new nurses' home, which the infirmary owes largely to the generosity of the late Mr. James Stables, a member of the board, as well as the isolation department, are situated on the far side of Thoresby Street, and are connected with the main buildings by subways.



Plan of Infirmary Extension (the new portions being shown black) and the proposed new street.

Happily, it occurred to Mr. Charles Lupton, the chairman of the weekly board, that the purchase of some property to the north of the infirmary might enable a rearrangement of some of the streets surrounding the infirmary to be carried out, whereby, partly by the closing of Thoresby Street, and partly by the utilization of some of the new area secured, a considerable extension of the infirmary could be carried out. The whole future of the infirmary depended on the decision which had to be taken on this important point. If it were not done, then any necessity in the future which might arise for a substantial increase in the hospital accommodation of Leeds would have to be met by a new infirmary, and it is generally held that one of the points in which Leeds is fortunate is the possession of one large general infirmary, for there is under this condition less danger of hospital abuse and better teaching facilities for the students of the school. The present site of the infirmary has many and obvious advantages; it is central, convenient for the railway stations, and close to the medical school and to the medical centre of the city. The property was purchased, and as was anticipated, permission was given for the alteration in the streets, and the possibility of some considerable extension of the infirmary was secured. All this became common knowledge some months ago. It soon became clear that the future of the infirmary could be safeguarded for probably at least a couple of generations if a considerable amount of additional property could be secured to the east of the present site. Strengthened by the knowledge that what they had in mind would be not only an admirable scheme for the infirmary, but would enable a great improvement touching some important traffic routes to be carried into effect, and confident therefore that the scheme would command the support of the public and of the corporation, the board has adopted the bold course of acquiring a very considerable amount of property to the east of the infirmary. The knowledge of this has been made public during the last few days, and on June 6th a deputation consisting of certain members of the board, along with the president of the special memorial fund, Mr. William Middlebrook, who was Lord Mayor at the time of its inception, waited upon the corporation, when the scheme was explained in detail by Mr. Charles Lupton.

The scope of the original scheme and that of the larger scheme, which it is now decided to carry out if possible, will be understood by a reference to the accompanying plan of the infirmary and its surroundings. The present buildings are indicated by the outline area, shaded with oblique lines. On the far side of Thoresby Street are the isolation department and a part of the nurses' home. In the original scheme a road was to be run by the infirmary from Fenton Street to St. James's Street; Thoresby Street and some of the smaller streets were to be closed. In this way all the buildings of the infirmary were to be brought within the boundary railing of the institution, and room for a considerable amount of expansion would have been secured. The main feature of the amended and larger plan is that a new wide thoroughfare should be run north in line with Calverley Street, through the property at the back of the town hall and passing with a curve until it reaches Fenton Street. All the area on the south-west of this new street would be available for the purposes of the infirmary, and the institution has purchased practically the whole. It has also acquired the land necessary for the construction of the new street. As an additional alteration, not essential to the carrying out of the scheme, it is also suggested that the property occupying the area marked "proposed open space" should be removed. This would greatly improve the surroundings of the town hall and would give a completeness to the scheme which it would not otherwise possess. The land required for the new street and forming the plots on its eastern side comprises 10,587 square yards. Already a little over 6,066 square yards have been bought by the infirmary board, who ask from the corporation for this portion £21,649, which, with legal expenses, works out at £3 11s. 4d. per square yard. The other properties could be acquired by agreement with the owners, or, failing that, by arbitration. It is estimated that if the scheme is carried out in its entirety the cost to the corporation will amount to £131,000. This would be made up as follows: For purchase of land for site of street and for laying out of the street, £50,000; purchase of land to the east of the new street, £31,000. This amounts to £81,000, and is all that is absolutely essential for the carrying out of the



Proposed Extension of Leeds Infirmary.

scheme. If the corporation decide on clearing the area behind the town hall an additional £50,000 will be required. Of course, it is pointed out that the corporation will derive substantial financial benefits in the way of rates, while it would also recoup itself to a great extent by the sale of surplus land and improve the character of the district generally and secure the removal of a very squalid slum, which is a discredit to the city.

The scheme has been very favourably received by all the different parties on the city council, and there is every expectation that it will be carried out. In anticipation of this a scheme of infirmary extension, and to some degree of reconstruction, has been carefully thought out, and plans have been drawn up by Mr. E. T. Hall, of London, whose work in connexion with the Leeds City Fever Hospital at Manston and the Manchester Royal Infirmary is so well known, and Mr. Sydney D. Kitson, of Leeds, who has proved his ability in planning the new buildings of the Leeds Public Dispensary. In the outline plan the black areas show the extensions planned. Three new ward pavilions are shown serial with and to the east of the four existing pavilions. Each of these will contain about one hundred beds, and it is proposed that one of these be proceeded with in the meantime. To the north of this will be the new operating theatres. The other black areas represent the new laundry department and the necessary extensions of the nurses' home. Making allowance for the sum which it is expected the infirmary will obtain from the corporation the scheme will cost the institution about £100,000, of which £50,000 will go in land. There will be an immediate increase in the number of beds by about one hundred, and room will be secured for two other pavilions, each for one hundred beds, which may be required in the future.

There can be no doubt that the scheme is an excellent one. It is earnestly to be hoped that the public and the corporation will support the bold action of the Infirmary Board and secure the carrying out of a scheme which will be of benefit to the city and to the greatest of the charities of Yorkshire.

MANCHESTER AND DISTRICT.

THE MANCHESTER PROVISIONAL INSURANCE COMMITTEE.

IT appears to be understood by the Manchester Corporation that the Provisional Insurance Committee for the county borough of Manchester is to consist of sixty members; of these the corporation has to appoint twelve, of whom, following the model of the Act, at least two must be women. The council also has to appoint two medical practitioners, though there is nothing in the Act to make it necessary that these should be members of the council. It is to be noted that the two women at least who are to be appointed by the council are included in the twelve representatives, but the two medical practitioners are in addition to the twelve, so that the council will appoint altogether fourteen members out of the sixty. The approved societies and deposit contributors will be represented by thirty-six, either elected by the societies or, until the organization is complete, by the committee itself to represent the insured, and the medical profession of Manchester will have the right to appoint two members of the committee. Though the Act does not preclude the medical profession from electing laymen, these two would naturally be medical practitioners resident in Manchester. This would leave eight members of the committee to be appointed by the Commissioners, of whom two at least must be women and one at least a medical practitioner, in the choice of whom the Commissioners are unrestricted. Thus, assuming that the two representatives appointed by the profession were medical men, the committee would contain altogether at least five medical practitioners, and more if the Commissioners appointed more than one or if the council liked to include additional medical men among its twelve representatives.

In pursuance of this scheme a meeting of the Special Insurance Committee of the City Council was held on June 7th for the purpose of nominating the twelve representatives of the council and the two medical practitioners to be appointed by the council. Councillor Dr. Chapman was proposed as one of the two, but he declined to stand,

and he has stated that his refusal was made in loyalty to the British Medical Association, and that until the just demands of the profession are conceded he must refuse to take any part in the working of the Act. At the same time, though he could not act as one of the medical nominees, he stated that he might not have been unwilling to serve as one of the twelve council representatives in his capacity as a representative of the ratepayers. Two members of the profession who are in the service of the corporation were named, but, according to the press report, it was stated that as they were officials they could not serve on the Committee, as the Act laid emphasis on the necessity of the medical nominees being "practitioners"; whether this interpretation be correct or no, the suggestion was withdrawn. It need hardly be said that the profession itself in Manchester has not taken any steps for the appointment of the two representatives that might be elected by the profession.

The South Manchester Guardians and the Insurance Act.

At a meeting of the South Manchester Board of Guardians, held on June 7th, a discussion took place as to the effect the National Insurance Act will have on the various officers employed by the guardians. A petition had been presented signed by 240 officers at the workhouse who will be affected by the Act, pointing out that the employees of the board already received most of the benefits to be provided by the Act, and asking that the board would continue in the future as in the past its treatment of the staff during illness, as the officers preferred to trust to the justice and generosity of the guardians. The Clerk to the guardians calculated that if the guardians provided free medical attendance and medicines, sanatorium treatment, and payment during sickness and disablement as they had done in the past, and also provided for maternity cases, they would effect a saving of at least £150 per annum. The petition had been considered by the Workhouse Committee, which recommended that the board should apply for exemption from the Act, and the committee believed that if this were obtained an arrangement might be made that Dr. Orchard should give medical attendance and treatment to all the indoor officers at the workhouse, the Rhodes Memorial Home and all the employees of the guardians resident within the area of Manchester, and also that arrangements might be made with the medical officers at the Cottage Homes and the Sanatorium to give medical attendance to the employees at those institutions. The Clerk said he had also received another petition from the staff at the board's offices asking that those affected by the Act should come under the protection of the guardians.

The Baguley Sanatorium.

As already reported, the Manchester Corporation has decided to transfer cases of infectious disease and puerperal fever hitherto treated at Baguley to the Monsall Fever Hospital, and to use the institution at Baguley as a sanatorium for phthisis. This has made it necessary to draw up a new agreement with the Bucklow Joint Hospital Board for the transfer of its cases of infectious disease and puerperal fever from Baguley to Monsall, and as the Monsall hospital is further removed from the Bucklow district, the Corporation proposes to provide motor ambulances to convey cases of the Bucklow Board to Monsall. The Corporation also offers to reserve accommodation at the Baguley sanatorium for a maximum number of 15 cases of phthisis from the district of the Bucklow Board, charging in respect of them a retention fee of £5 a bed, and also £2 a week per patient maintained by the Corporation. Moreover, if the accommodation proves to be sufficient, the Corporation will be willing, on six months' notice, to receive another ten patients from the Bucklow Board at the same weekly rate. In the event of the death at Monsall of any patient from the district of the board, the Corporation will at its own cost remove the body to any point within the district of the board desired by the relatives of the deceased. The retention fee of £10 a bed and weekly maintenance fee of £3 3s. a patient now charged to the board for infectious cases are to be reduced to £8 and £2 respectively.

ESSEX.

The Sanatorium Benefit.

At Chelmsford on June 4th Dr. J. C. Thresh, County Medical Officer for Essex, laid before a conference (at which were represented nine boroughs, urban and rural authorities) a scheme for adoption under the sanatorium clauses of the National Insurance Act. The representatives of Chelmsford included Drs. T. H. Walker and H. W. Newton and Alford; of Maldon, Dr. H. Reynolds Brown; of Burnham, Dr. T. D. White; Drs. J. Stirling-Hamilton of Ingatestone, and W. F. Corfield of Colchester were also present. Summed up, the scheme divided the work into two parts: sanatorium treatment and tuberculosis dispensary treatment, the former being left to the county council, and the latter to the authorities of various areas into which it was proposed to divide the county as a whole. As for sanatoriums, the county council should provide one or more buildings with an aggregate accommodation of 100 beds to begin with, and not less than 200 later on. Two-fifths of the cost would have to be provided out of the county rates, the remainder being paid by the Treasury. Maintenance could be provided either by an annual grant from the county insurance committee, or by weekly payments from the same committee for each patient admitted. In either case any balance required would be charged either entirely against the county rate, or in respite of structural and establishment expenses against this rate, and the rest against the authorities who sent in the patients. In regard to dispensaries, the suggestion was to divide the county into nine areas, each of which would establish, administer, and maintain one chief and a certain number of branch dispensaries. The latter would be attended by the dispensary physician at stated times. An integral part of the system was the attachment to each dispensary of a certain number of beds for local patients in the proportion of 1 to 5,000 of population. The proposed Chelmsford area, for instance, would require 18, of which 8 could be found at Chelmsford Isolation Hospital and 5 each at the corresponding institutions at Maldon and Billericay. In regard to expense, Dr. Thresh put that of the area of which Chelmsford would be the centre at £4,600. This sum would cover payment for the patients sent to the county sanatorium, the nursing and maintenance of the patients occupying the local dispensary beds, and the annual expenditure (£1,600) on one chief and four branch dispensaries—including a salary of £500 a year for the officer in charge of them and £200 a year for the travelling expenses of this officer and a nurse. On the other hand, the area would probably receive as its share of the grant received by the Insurance Committee £1,590, so the balance which the Chelmsford area would have to provide out of the rates would be £3,010. One question which would have to be determined was whether this should be apportioned in proportion to the population or to rateable value. The conference approved the main features of the scheme.

LIVERPOOL.

University Lectures for Workers.

On Saturday, June 8th, Mr. Patrick Abercrombie, lecturer in civic design, gave an interesting lecture on Town Planning. In a review of the legislation which had been passed during the last sixty years, he pointed out that the issue had been to limit the right of the individual property owner to do what he pleased with his property, and this in the interests of the public. He considered that the Public Health Act, by standardizing everything with regard to the construction of houses and by the rigidity of its by-laws, had led to a depressing uniformity in dwelling-houses and limited enterprise in the architecture in private houses. A reaction had taken place, as evidenced by Port Sunlight and Bournville, and led to the garden city movement and Town Planning Act, which admitted relaxation and discretion in construction with good surrounding space and distinction of character, combined with facilities for individual and collective recreation.

Death of Dr. A. T. H. Waters.

It is with extreme regret that we have to announce the death of Dr. A. T. H. Waters, of Liverpool, which took

place at his residence on Saturday, June 8th, at the age of 86. Dr. Waters, who was Casualty Physician to the Liverpool Royal Infirmary, was the oldest member of the profession in the city, and had been the recipient of many honours, including the Presidency of the British Medical Association when it last met at Liverpool in 1883. A full memoir will appear in an early issue.

Dr. Caton writes:

In the person of Dr. Waters Liverpool lost on Saturday last, at the age of 86, a veteran physician, esteemed and lamented by all who had the privilege of knowing him.

At all times inclined to a retired and studious life, he had, of late years from impaired health, withdrawn himself from public and professional work, but in his earlier days he had rendered important services to the public and to medicine.

As President, many years ago, of the British Medical Association and an active participant in its work, he had been well known to the profession throughout the country. For a lengthened period he held the post of Physician, in succession, to the Northern Hospital and the Royal Infirmary, where his services were marked by skill, thoughtfulness, and conscientious care for the welfare of his patients. As a clinical teacher he supplemented with much ability the excellent systematic lectures which he delivered as Professor of the Principles and Practice of Medicine in University College.

Nor was he only successful as a consulting physician and teacher; he also engaged in valuable original research. His papers read before the Royal Society, his articles in *Quain's Dictionary of Medicine* and in many professional journals were of sterling merit, dealing mainly with tuberculosis and lung disease.

A keen advocate for higher education, he was one of the first to labour hard for the establishment of a college or university in Liverpool. As early as 1873 he was chairman of a committee established for that purpose, and he lived to see the university, for which he had hoped and striven, rise to importance and success. He was very unselfish, and for all this good work he neither sought nor received any special recognition.

He enjoyed the great blessing of a singularly happy domestic life. Those who knew Dr. Waters well found his companionship highly attractive; he had refined tastes for certain departments of literature, he loved travel, and greatly enjoyed beautiful scenery. His character won unfeigned respect on account of his excellent judgement, his strict code of honour, his natural kindliness and courtesy, while the lofty ideals he set before himself were an inspiration to those who penetrated the secrets of a strong but modest and reserved nature.

The writer has often regretted that, owing to failing health and the need for quiet and retirement, Dr. Waters's influence was, of necessity, less widely operative during his later years, for he was the very type of a gentleman and of a high-principled and cultured physician of the older school, and such an example is precious.

Ireland.

[*FROM OUR SPECIAL CORRESPONDENTS.*]

Dublin Corporation and Trinity College Bicentenary.

At the last meeting of the Dublin Corporation a letter was read from Viscount Iveagh, Chancellor of the University of Dublin, and the Provost, inviting the Lord Mayor and members of the Corporation to appoint two of their number to represent the city at the two hundredth anniversary of the foundation of the Medical School of Trinity College on July 4th and following days. A resolution was passed tendering the congratulations of the Corporation to the Medical School on the celebration of its two hundredth anniversary, and the Lord Mayor and Alderman McWalter were appointed as delegates. The Lord Mayor said that when he saw that the graduates of Trinity College, Dublin, found that they had a difficulty in obtaining a room large enough for their purpose he instantly placed the Red Room of the Mansion House at their disposal.

New Buildings for the National University.

Nearly four years ago Parliament passed the Irish Universities Act, under which the National University of Ireland, with its constitutent colleges in Dublin, Cork, and Galway, and the Queen's University, Belfast, were constituted. These institutions superseded the Royal University, whose college buildings in Earlsfort Terrace, Dublin, have fallen to the National University. These buildings, which were originally constructed for the purpose of housing an industrial exhibition, were never suitable for purposes of a college, although they were converted and adapted as well as possible. It was realized that the buildings were utterly inadequate to the requirements of the new university, and the payment of £150,000 was authorized by the Universities Act for buildings in Dublin. Of this, £40,000 goes to the Senate for offices, and only £110,000 is left towards the cost of erecting buildings worthy of the dignity of the university. The governing body of the university has now decided that the present site is the best, though the ground space is somewhat limited. But Lord Iveagh, with characteristic generosity, has given two extra pieces of land in the vicinity, so that there are about four acres at the disposal of the authorities. The governing body has invited architects to submit designs for the new college buildings. The building is to be started as soon as possible, as the work of the college is seriously hampered by the present scattered condition of some of its teaching faculties. There are at present over 800 students at the college. The inconvenience arising from the present arrangements may be understood when it is stated that the medical faculty is so dissevered that some of the students attend at 86, St. Stephen's Green, some at Earlsfort Terrace, and others—the more advanced—at the Cecilia Street establishment. Another important consideration is the lodging of the students who come up from different parts of the country. A number of approved hostels have been opened in quarters convenient to the college. The Jesuits are building a large hostel in Leeson Street for the reception of students who have been at Clongowes or others of the colleges under the charge of that order. Similar houses are being provided for the girl students, under the direction of nuns.

Insurance Act Administration.

The committee appointed to consider the provision of the outdoor staff for the administration of the National Insurance Act recommends the appointment for Ireland of a chief inspector at a salary of between £550 and £700 a year, five inspectors, fifteen assistant inspectors, and twenty-five insurance officers and of two medical officers, one at £700 and the other at £550 a year.

Medical Substitutes' Fees.

A serious situation has arisen in Edenderry Union regarding the payment of medical substitutes. The local doctors demand a guinea a day for temporary work, but the Local Government Board has written pointing out that the guardians cannot pay more than 4 guineas a week and *pro rata per diem* for any period of three days or over. This ruling has given general dissatisfaction to the medical practitioners in the union, and they are insisting on the payment of a guinea a day irrespective of the duration of the temporary work. The guardians allowed Dr. Hamilton (Rhodes) 3 guineas for acting as locumtenent for three days, and at a recent meeting a letter was received from the Local Government Board pointing out that if the guardians paid more than 2 guineas they would be surcharged. A fee of 11 guineas for eleven days' work as locumtenent was claimed by Dr. Waters (Carbury), but the Local Government Board declined to sanction more than the rate of 4 guineas a week; and at the same meeting the clerk read a letter from Dr. Waters stating that he questioned the legality of the Local Government Board's ruling, but as he did not wish to have the guardians surcharged he would accept the smaller amount, but would not again act as a substitute. It was suggested that the Board might compel the doctor to act as locumtenent, but the Clerk gave it as his opinion that the Board could not compel any doctor to act outside his own district.

Another case showing the general dissatisfaction of the doctors throughout the country with the Poor Law service has arisen in Sligo. Dr. E. C. MacDowel, of Sligo,

who is not in the Poor Law service, was summoned in consultation by a Poor Law medical officer seven miles away. In due course he sent in a bill for 10 guineas. The guardians offered 1 guinea, being the sum fixed by their scale. This Dr. MacDowel refused to accept, and the matter was referred to the Local Government Board. The Board replied that the scale applied to all medical men who accepted consultations in Poor Law cases. The result of such an attempt to dictate to independent members of the profession without consulting them when drawing up the scale of fees is that medical men who value their own services will refuse to consult in Poor Law cases.

Plucky Act of a Dublin Doctor.

At an inquest last week on a boy who was drowned in the Liffey, the plucky action of a doctor was brought to light. It appears that Dr. A. L. Hoops, who was cycling along the quay, observed a crowd on the river wall and a man with his hand on a lifebelt. He saw a body in the water and at once removed his coat and dived in. The lifebelt was thrown to him, and with its aid he got the boy out of the water and applied artificial respiration, but without result, though the body was still warm when brought to land. It was full tide at the time, and a strong current was running. Dr. Hoops was a student of Trinity College, and took his degree in 1901. He was wounded in the South African war and was invalided. He is now in the Colonial service, being Senior Medical Officer of Kedah, Malay Peninsula, and is at present at home on leave.

Borstal Institution of Ireland.

Last week the annual meeting of the Borstal Institution of Ireland was held at Clonmel. This institution has been engaged upon its work of reclaiming young criminals for only six years, but in that short time, as the report shows, its activities have gained wide recognition. Its work has the supreme advantage of being entirely non-sectarian. The report is encouraging, in that it shows that though the boys committed to the institution belong almost exclusively to the one class, those who are either homeless or who come from homes whose influence is essentially vitiating, yet the results obtained from this apparently hopeless material are wonderfully good. Since the institution started, 65 per cent. of its boys have been turned into useful and well-conducted members of society. It would appear that every committal to the institution should be for the maximum term of three years, as it gives stimulus to good conduct; the boys can be set at liberty on licence when they have served only a portion of their sentence, but with the watchful eye of the authorities still upon them. There is a great need that a similar institution should be started in Ireland for young girls, as at present criminal young girls have to be sent either to the prisons or the reformatories. This is a matter that needs immediate attention.

Census Returns.

According to the census returns for the County Sligo, just published, there has been a decrease in the population of 5,038 since the last census, but in the town of Sligo the population has increased by 293. There are 909 one-room tenements in the county, and 112 cases in which there were 5 to 7 occupants in the one room, 36 where the occupants exceeded 7, including 4 cases of 10 persons and 2 cases of 11 persons in the one room. In the last ten years the number relieved by the Poor Law has fallen from 1 in every 50 to 1 in every 69 of the population. The number of emigrants during the last ten years was 9,157, over one-ninth of the present total population. In County Meath the population has decreased by 2,406. The number of persons relieved by the Poor Law has fallen from 1 in every 25 ten years ago to 1 in every 43 last year. During the last ten years there have been 3,416 emigrants, or one-nineteenth of the present population. All the returns issued so far show a considerable excess in the number of males over females in the various counties.

Royal College of Veterinary Surgeons.

The sixty-eighth annual general meeting of the Royal College of Veterinary Surgeons was held last week in Dublin for the first time. Professor A. E. Mettam, B.Sc., M.R.C.V.S., presided. The report which was laid before the meeting states that the number of students (456) presented for professional examinations during the year 1911 showed continuance of the falling off, which has been going on since 1906, when the number was almost 200 higher. The decline in the income of the college noticed during the last six or seven years reached a point last year which compelled the council to sell out capital to meet the growing deficit and current liabilities. A sum of £788 13s. was realized, but the excess of expenditure over income being £656 16s. 4d., authority has been granted the Treasurer to realize a further like sum. At the annual dinner, held in the evening at the Royal College of Surgeons, His Excellency the Lord Lieutenant was present.

Scotland.

[FROM OUR SPECIAL CORRESPONDENTS.]

The Caledonian Medical Society.

The thirty-second annual meeting of the Caledonian Medical Society will be held at Stonehaven on Saturday, June 22nd, under the presidency of Dr. W. A. Macnaughton, Medical Officer of Health for Kincardinshire. The annual dinner will be held the same evening. This is the second occasion on which Dr. Macnaughton has been elected president of the society, and it is a unique honour. Dr. Macnaughton is not only one of the founders of the society, but has been the editor of its journal, the *Caledonian Medical Journal*, for many years.

Thorium Emanation.

At the meeting of the Royal Society of Edinburgh on June 3rd, the President (Sir William Turner, K.C.B.,) in the chair, Dr. Dawson Turner read a paper on experiments in radio-activity, the production of the thorium emanation, and its use in therapeutics. Thorium X and its volatile product, the emanation, were, he said, readily obtained from radiothorium. The latter was derived from thorium through two intermediate products, named mesothorium No. 1, and mesothorium No. 2. Mesothorium No. 1 had been used of late in place of radium in the treatment of skin affections and growths, and for superficial conditions it was reported to be quite as good as radium. It was much cheaper than radium, but its average life was only about eight years. The action of mesothorium must depend upon its disintregration products, mesothorium No. 2, radiothorium, thorium X, the emanation, etc., because mesothorium No. 1 was rayless. The presence of the thorium emanation could be shown by its ionizing effect in discharging an electroscope, by the phosphorescence it imparted to zinc sulphide, and by its behaviour as a condensable gas. Its average life was 76 seconds. It radiated alpha rays and formed an active deposit called thorium A. This disintegrated into thorium B, this into thorium C, and this into thorium D. There were various methods of preparing the active thorium compounds for therapeutic use: (1) By inhalation. Air which has been aspirated over radiothorium contained the emanation. Patients could be given this air to breathe. (2) By injection. Thorium X could be dissolved in water and administered as a mineral water. (3) By baths, containing a solution of thorium X. (4) By injection of a solution of thorium X either into a tumour mass or into the veins. Czerny and Caan treated in this way 36 cases of tumour. The injections were at first followed by a swelling of the growth and by pain, and later by a diminution in its size, due to the replacement of the cancer cells by dense fibrous tissue. The thorium emanation could be used in place of the radium emanation for the treatment of gout and rheumatism. The body ferments were activized and metabolism increased. Dr. Dawson Turner said that he had used the emanation with apparent benefit for spraying the interior of cancerous cavities. Large areas could in this way be attacked and a radio-active deposit left *in situ*.

Cancer in Scotland.

At a recent meeting of the Royal Society of Edinburgh Sir Geo. T. Beatson, M.D., K.C.B., Surgeon to the Glasgow Cancer Hospital, read a paper on the cancer statistics of Scotland for the years 1861–1900, and their indications as to the prevalence, age incidence, and distribution of the disease in Scotland. Sir George Beatson said that the

study of a disease surrounded with the apparently impenetrable mystery which enshrouded cancer could not exclude any method of examination, and a very important one was the information furnished by statistics. It was known that cancer affects all races of mankind, in all climates, and under all conditions of living; but statistics showed that it did not affect them all equally, and the study of this inequality, so as to ascertain the causes underlying it, might assist in throwing light on the nature of the disease, and thus give a clue to what it was that produced personal liability to it. Another reason for inquiring into the statistics of cancer was that it was not on the wane, but the very reverse; and it was important to know to what extent it was increasing, and whether Scotland was sharing in the greater prevalence of the malady. If the latter were the case—and there were good grounds for thinking that it was—it was desirable to ascertain whether there were any particular districts in which this was happening, or whether the increase was general all over the country. Taking the last decade of the period under review (1891 to 1900), it was found that 30,908 deaths were recorded as being due to cancer. During the same period the deaths from all causes numbered 781,860, so that cancer formed 3.95 per cent. of the total. There was a striking difference, however, in the proportion occurring among males and females, as the following table showed:

Scotland, 1891–1900.

	Males.	Females.	Both Sexes.
All causes	389,336	392,524	781,860
Cancer	11,714	19,195	30,908
Proportion of total due to cancer	3.01 %	4.89 %	3.95 %

In absolute numbers the female deaths formed almost two-thirds of the total, and amounted to 4.89 per cent. of all the deaths among that sex, as compared with 3 per cent. among males.

Age Incidence.

The second point to which inquiry was directed was to ascertain the age or ages at which the disease proved most fatal.

The Death-rate from Cancer per 10,000 Persons of Each Sex in Various Age Groups.

Ages.	Males.	Females.	Both Sexes.
0–5	0.199	0.215	0.207
5–10	0.110	0.096	0.103
10–15	0.150	0.097	0.124
15–20	0.255	0.203	0.229
20–25	0.437	0.374	0.405
25–35	0.927	1.610	1.286
35–45	3.715	8.363	6.123
45–55	13.098	21.568	17.806
55–65	30.161	37.509	34.222
65–75	51.559	53.207	52.517
75–85	61.751	58.774	59.929
85	62.244	58.929	60.071
	5.631	8.773	7.274

The Large Towns.

Dealing with the distribution of cancer throughout the large towns and counties of Scotland, Sir George Beatson said that it would appear that no general conclusion could be drawn as to the incidence of cancer in the counties of Scotland. Considered geographically, there was a suggestion that the counties of Caithness, Sutherland, Ross and Cromarty, and Inverness afforded examples of low cancer death-rates over a wide area similar in character. It was probable, however, that incomplete medical certification of deaths might have had some influence on the rates for these counties, and for this reason it was not safe to dogmatize. On the other hand, counties with similar features as to social condition, but geographically removed, such as Nairn and Roxburgh, presented high death-rates. Midlothian and Dumfries, again, were counties whose population differed socially and industrially, although they compared in high cancer death-rates. The principal towns compared unfavourably with other districts, although, having regard to the general mortality of towns, the rates were such as might be expected. Among the individual towns contrasted, Edinburgh stood much above the others. With the exception of a slight advantage over Aberdeen among females, Glasgow showed the lowest rate. The excessive incidence of the disease in Edinburgh was evidenced by the high rates prevailing at the later ages. In Glasgow the saving occurred at these later ages, and the difference was very marked in the highest groups.

Causes of Cancer.

Regarding the causes of cancer, Sir George Beatson stated that he was afraid nothing definite could be brought forward. It had been, of course, attributed to various facts. Some thought that the increase synchronized with the changes in the social life of the people. A certain class held that the disease had become more prevalent along with compulsory vaccination; others with the greater amount of meat eaten. To attribute such important effects to these concomitant causes was to venture on dangerous ground. It might be safer to say that the wider diffusion of luxury and the accompanying artificiality and strain of daily life had some share in the matter, because surroundings, although they might not be the actual cause of the disease, might produce it in those predisposed to it.

The Fatal Periods.

In connexion with the age incidence of cancer and the periods of life most prone to suffer from the malady, it was most interesting to note that just as these periods were not the same in men and women—the highest incidence in women being from 34 to 45, and in men from 45 to 55—so it had been observed that different organs of the body seemed also to have different age liability. That for cancer of the uterus was 45.7, and for cancer of the mamma 49.8, while for the other parts of the body taken collectively it was 53.7.

Need for Research Work.

One thing that the heavy toll of cancer death called for was research in connexion with the disease in Scotland. Such research should include (1) the starting and equipment of special laboratories to be entirely devoted to research on cancer; (2) the development of cancer research work in the hospitals and institutions where clinical cases were available; and (3) the provision of means for a systematic investigation generally into the causes, prevention, and treatment of disease. Glasgow had taken a wise step in establishing a research department in connexion with the Cancer Hospital, and that was a course which might well be followed in Edinburgh, where the statistics showed the disease to be specially prevalent. By such co-operative research in Scotland a great deal might be done to elucidate the mystery of a disease which was one of the heaviest afflictions that fell to the lot of suffering humanity.

A PELLAGRA commission, equipped with a full field laboratory, started from New York on May 27th with the object of studying pellagra at Spartansville, South Carolina. The members of the commission are Dr. Joseph F. Stiler, of the United States Army; Dr. Philip E. Garrison, of the United States Navy; and Dr. Ward J. MacNeal, assistant director, Department of Laboratories of the New York Post-graduate Medical School. On reaching its sphere of operation the expedition will be joined by two entomologists who have been on the field for some time working under Dr. L. O. Howard, of the Department of Agriculture. The expedition has been organized under the direction of the Division of Tropical Medicine of the Post-graduate laboratories. It is intended to spend five or six months in South Carolina.

Correspondence.

APPENDICITIS—AND QUICKNESS.

SIR,—Sir George Beatson apparently considers that it is unwise to operate on all cases of acute appendicitis within the first twelve hours; at any rate, he says he has no fault to find with such a line of action, but after that time (twelve to twenty-four hours) he says every case must be "judged on its own merits." If we turn to the end of his letter we see why he is not in favour of operation in all cases after the first twelve hours. It is evidently because he considers that by that time the appendix may be safely walled in by "infected plastic lymph and leucocytes," and that the danger of operation when this has occurred is in dissemination of the infecting organism. But how can any surgeon possibly tell that this walling-in of the diseased appendix has been safely accomplished by Nature? When we operate after the severe initial pain is over, and perhaps the patient only feels pain when he turns in bed, and when the pulse is under 80, when we might certainly think that the appendix was being safely walled-in by plastic exudation, we often find on opening the peritoneum that no such sequestration has occurred, and that a partly or wholly gangrenous appendix is lying where it is just ready to infect the general peritoneal cavity, or has already infected it to a limited extent, without such infection leading to the formation of any protective adhesions. I am quite sure Sir George Beatson cannot tell us clearly what are the clinical signs of a safe walling in of a diseased appendix, and that we cannot, therefore, be guided by the "merits of the case," as he calls it. If we abstain from operating, believing that the appendix is getting safely walled in by plastic exudation, we shall every now and again get a rude shock, when, finding that things are not as quiescent as we imagined, we decide to operate a little later, and find a perforated appendix and commencing diffuse infection.

But, supposing the appendix has become well walled in, that does not necessarily bring the disease to an end, for around many walled-in appendices an abscess forms, and I suppose Sir George Beatson would agree that this requires operation, and that to evacuate the pus the surrounding adhesions must, at one spot, at any rate, be broken down, after well packing off the general peritoneal cavity, unless, of course, the disease has unfortunately advanced so far that an abscess is pointing through the abdominal wall. Is it not better, then, to remove the diseased appendix as early as we can before pus has formed, even though we have to break down the adhesions of omentum and intestine around it to get it away? Of course, I quite recognize that in a certain number of cases no pus forms, but we can never tell whether in the case under our care pus is forming or not, or, more important still, we cannot, I maintain, tell whether any protective adhesions have formed or not, and that we are not leaving an already gangrenous appendix just ready to infect the general peritoneal cavity.

Even under careful observation in a surgical ward, I do not think it is safe to leave cases of acute appendicitis without operation on the chance that protective adhesions are forming around the appendix, and I feel sure that sooner or later the surgeon who does so will deeply regret he did not operate before. But to see such cases in consultation and then to leave them under the observation of others is likely to be still more disastrous in practice.

I am quite ready to admit that there is a distinct danger in disturbing protective adhesions, not so much from spreading infection to the surrounding peritoneum, for with careful temporary packing at the time of the operation and the retention of iodoform gauze packing in the track leading from the infected area to the abdominal incision around the drainage tube for some days after in suppurating cases the risk of spread of infection is very small (especially if we always operate with the abdomen well on the slope from the chest to the pelvis and the patient well over on his right side); but there is a very real danger from absorption of toxins set free by the breaking down of protective adhesions. But it is in evacuation of an abscess that such toxins are usually liberated and absorbed, and I suppose no one would suggest that therefore abscesses around the appendix had better be left alone. We have to take the risk and deal with them. If the disease in the appendix were not serious enough to lead to abscess formation but only to dry adhesive peritonitis, the risk of breaking down these dry adhesions in order to remove the appendix would be very small indeed, and we might very likely find when we had removed it that there was an ulcer in its interior on the point of perforating or a patch of gangrene of the mucous membrane, which would very likely soon have involved the whole thickness of the wall.

Sir George Beatson is to be congratulated on his small death-rate in 151 acute cases, but I feel sure the death-rate in acute appendicitis will not be raised by operating on a certain number of walled-in, non-suppurating cases, that could not possibly be distinguished from dangerous ones, with gangrene or early perforation or abscess formation. I am, however, confident that if Sir George Beatson's teaching, that after the first twelve hours all cases must be treated on their merits with regard to operation, be followed, a certain number will die because they are not operated on at a time when life might be saved by doing so, and many will be dangerously ill from spreading peritonitis or toxic poisoning associated with localized suppuration.—I am, etc.,

Bristol, June 9th. CHARLES A. MORTON.

RELATION OF BIOLOGY TO PATHOLOGY.

SIR,—In his interesting paper in your issue of June 8th, Dr. Hastings Gilford refers to the "Mneme" theory of Richard Semon, which he suggests—and, I believe, rightly—is destined to exercise a powerful influence on biological and pathological thought in the future. It should, however, be made plain at this stage, just when Semon's victorious career is about to commence, that he has been anticipated in the main principles of his theory by several writers. Its essential features, largely implicit in the teaching of Lamarck, appear in a book published in 1870 by Professor Ewald Hering of Vienna.[1] I should like, above all, however, to draw the attention of my medical brethren to a most able and delightfully written book, *Life and Habit*, by Samuel Butler, published in 1878.[2] Quite independently of Hering, Butler arrived at similar conclusions. Partly, however, because at that time the all-sufficiency of natural selection as an explanation of evolution had taken possession of men's minds, and also partly, no doubt, owing to the fact that Butler did not possess the orthodox academic qualifications, his theories fell flat. He was before his time. His teaching has been summarized in a later work, *Unconscious Memory* (1880), in four main principles—namely:

(1) The oneness of personality between parent and offspring; (2) memory on the part of the offspring of certain actions which it did when in the persons of its forefathers; (3) the latency of that memory until it is rekindled by a recurrence of the associated ideas; (4) the unconsciousness with which habitual actions come to be performed.

To which, as Professor Marcus Hartog points out, we must add a fifth—

The *purposiveness* of the actions of living beings, as of the machines which they make or select.

Dr. Hastings Gilford's idea of disease as something out of proportion—as a disharmony between organism and environment—is, I believe, one which must in the end prevail. I question, however, whether the gap between bacterial and other diseases is as wide as he imagines; he may yet find that there is something of his "cryptic element" in the former as well as in the latter group. We have not fully "explained" tuberculosis when we have discovered the tubercle bacillus.

Dr. Hastings Gilford is to be congratulated on having once more emphasized the fact that man, whether in health or disease, is only to be understood ultimately from the point of view of the race.—I am, etc.,

Edinburgh, June 9th. ARTHUR J. BROCK.

[1] *Das Gedächtniss als allgemeine Funktion der organisirten Substanz.* (Memory as a universal function of organized matter.)
[2] New edition, 1910, Fifield, 5s. net.

THE AUTOINOCULATION TEST IN TUBERCULOSIS.

SIR,—According to his paper in the BRITISH MEDICAL JOURNAL of June 1st, Dr. Warren Crowe has done sixty tests of the opsonic index to the tubercle bacillus in patients suspected of tuberculosis, and from the fluctuations observed he has set forth with evident exhilaration the facility by which he thinks tuberculosis can be diagnosed.

Of course, enthusiasm is a good thing, which many think too rare nowadays, but it is at least desirable that it thrives in company and not in discord with the facts. The work of Strangeways, Fitzgerald, of Greenwood and White, Hort, and Glynn and Cox showed, several years ago, that the fluctuations of opsonic index estimations were largely instrumental, being evidences of mathematical fallacy and not necessarily signs of real differences in the amount of opsonin.

Dr. Warren Crowe, however, attempts to ignore this unpleasant but dominant truth, and concludes his paper by a miserable slur on the scientific labours of those he calls carping critics, who cannot or will not master the technique. It is surprising that Dr. Warren Crowe has found the technique difficult, but it is certain he should have commenced by repeatedly testing the same serum against itself. If his memory is good, he will recall the evening of March 19th, 1912, at the Royal Society of Medicine meeting (Pathological Section), when I had the privilege of reading a paper on the subject of opsonic index measurements. I related that the opsonic index of the same serum had been repeatedly tested against itself with exactly the same materials, and the liability to mathematical fallacy stood revealed in its almost amusing absurdity, amply confirming the results of the pioneers in opsonic reform.

Now since Dr. Crowe followed me with a paper on another subject, why did he not say one word on the matter, and fight for his opsonic faith in the presence of one of the critics? Instead of doing so he writes this contemptuous charge—that we have not the necessary dexterity nor the care to acquire it. When, however, Dr. Warren Crowe does attempt to test the same serum against itself and finds that only once in several trials does the same value turn up, I believe the critical faculty will arise within him, and he will (in the words of the poet) "tremble, and turn, and be changed." Then, and not till then, will he realize that not sixty, nor even six thousand, opsonic tests are really worth while upon these long-suffering patients until a method is available of measuring opsonin with an accuracy worthy of the name. I recommend him to study seriously the works of these other authors named above, and to try and do some real hard testing work by which he will realize the folly of his present opsonic notions and assertions.

After such an experience he will come forward in high respect for the works of those I have named. These were they who saw the faults, and had the courage and energy for the laborious and gratuitous experiments required to prove the truth.—I am, etc.,

London, W., June 3rd. CHARLES RUSS.

SIR,—Dr. Warren Crowe's paper is very interesting. If he would in the future give a more detailed explanation of his method it would be still more interesting.

The general practitioner it is who sees most of the tuberculous cases, who has most of the work in treating them. Being one of this class, I would like to know what is the negative phase and what is its clinical equivalent. If the negative phase is an important indication of danger, surely it has some clinical manifestation that can be demonstrated in some way less artificial than the doing of an opsonic index.

If the treatment of tuberculosis depends on the determining of the opsonic index on every patient every now and then, I fear that the burden and expense laid on the general practitioner and his patient is greater than they can bear.—I am, etc.,

Lisburn, June 6th. J. L. RENTOUL.

A NATIONAL MEDICAL SERVICE SOCIETY.

SIR,—Right gladly would I join such a society as Professor Benjamin Moore suggests for advocating the formation of a National Medical Service.

I feel, as many more must do, that when we have obtained our six cardinal points I shall still be far from satisfied. For with all the improvements that have been or may be introduced into the National Insurance Act, the medical part of the scheme will still remain the old club system. The Chancellor has taken the worst system he could find, and has made it as universal as he could. It is on wrong lines and cuts right across the natural lines of evolution along which preventive medicine was making such rapid strides.

What is needed is a National Medical Service, working in harmony with the excellent machinery which already exists in our medical officers of health, our municipal hospitals and sanatoriums, etc. An excellent scheme was sketched out in the Minority Report of the Royal Commission, and its details have been worked out by Mr. and Mrs. Sidney Webb. But it is not the time now to dwell upon the details of the scheme. The fact that we are at one upon the general principle should be a sufficient bond of union.

I sincerely trust that Professor Moore may feel encouraged to go forward with his suggestion.—I am, etc.,

Manchester, June 9th. E. VIPONT BROWN.

CENTRAL COUNCIL ELECTION.

SIR,—If I was desirous that the readers of the JOURNAL should be afforded an object lesson as to the existence of a certain class of men in Liverpool, to which class I referred in a previous communication, I would have invited Drs. Bradshaw and Bushby to indite an epistle of a character such as is published from them in the JOURNAL of June 8th. I read their effusion with Homeric laughter, regarding it as a crude joke, and hesitated if I should not treat such a production with the contempt it merits and deserves, but I determined to comment upon it. It consists of a tissue of not truths and half truths; the latter, as is usually the case, calculated to be the most injurious in incidence.

The personal element and bias are obvious throughout, and it should only be too patent to your readers that those men, irrespective of any possible service I might be privileged to render, at the present tide in the affairs of the profession, are alone concerned to gratify their personal animus by endeavouring to cajole and prejudice against me the electors of the Lancashire and Cheshire Branch. I am consoled, however, by reflecting that men like myself who possess, as I trust I do, the courage of their convictions, are invariably doomed to experience similar obstruction, and to be misrepresented according to the qualifications of those peculiarly conversant with, and adapted to, such congenial employment. They first state that I issued a leaflet to the electors of the Lancashire and Cheshire Branch. That statement is not true. I issued to the electors of the Liverpool Division alone—and was induced to do so in fairness to those who elected me to the Representative Body—a leaflet to controvert certain imputations that were being made by interested individuals as to my action at the Representative Meeting.

Next they go on to remark that the success of my candidature as a Representative was largely due to a circular signed by several consultants—evidently a most heinous offence—but they deem it quite unnecessary to say that the number of general practitioners who also signed the circular in question far outnumbered the consultants whose names were appended to it, and that at the meeting of the Division at which I was proposed for election it was plain that I would there and then have been elected, but it was moved that a postal vote—the first taken for the election of a Representative—should be the method adopted, doubtless in the hope that I would have been defeated.

Their chagrin was, and is, great that I came in second on the poll, and constitutes the real *fons et origo* of their action towards me since.

They admit that I received a vote of thanks for my services at the Representative Meeting, but have the consummate impertinence to assail the proposer of the vote and to interpret the tone of the meeting to suit their own views. This fact ought to prove of interest to your readers as serving to illustrate the machinations of those

gentlemen. They omit to observe that when concluding my address, in which I rendered an account to the Divisional Meeting of my actions at the Representative Meeting, I remarked that "there was not a rift in my armour." If they thought such existed, I challenged them to point it out. They had not the courage to do so, as they well knew that there was none; hence the vote of thanks, which they now demean themselves by endeavouring to discount, craftily timing their action.

The nomination of Dr. Heaney was, I assert, the outcome of opportunism and intrigue, and was sprung upon the meeting at which he was nominated at the last moment to confuse the issue and prevent my being nominated by the Division. He has proved a fitting *protégé* of Drs. Bradshaw and Bushby, as his election address indicates. Therein he makes charges against an organization without a tittle of foundation, and when invited to substantiate his assertions he, contrary to all the canons of good taste and to the rules presumed to exist amongst men of honour, makes no reply.

Your correspondents write that "Dr. O'Sullivan claims to be a strong opponent of cheap contract work." So he does. Then they proceed to quote a resolution proposed at a committee meeting in Liverpool. I am by no means sure that I proposed the resolution alluded to, and being from home cannot verify the minutes; I am of opinion that I seconded; I undoubtedly supported it. I did so because I am profoundly opposed to cheap contract work, and consider the method of payment for attendance infinitely more independent and not degrading like cheap club work. Even though the remuneration be small it is much to be preferred.

The resolution referred to was for payment for work done, and had no bearing on cheap contract work whatever, as Drs. Bradshaw and Bushby well know, but they seem as usual to confuse the point.

I never suggested the equivalent per capita of the sum they quote as I was against that system, though had I done so the equivalent would be on a par with, if not more than, the per capita rate proposed by the State Sickness Insurance Committee in their recently published Medical Service scheme (based upon a capitation system of payment), and if the cost of medicine were to be added to the sum proposed in the resolution it would be a rate of payment equivalent to that proposed by the committee in their scheme (based upon payment for attendance system). Messrs. Bradshaw and Bushby are aware, but consider it quite irrelevant to mention, that at the committee meeting I proposed that if the committee were to decide in favour of the per capita system of payment the rate should be £1; being defeated, I voted for one of 15s., which was rejected. I refused at that meeting to go lower, and at the Representative Meeting voted for the 10s. per capita.

The sum proposed in the resolution they seek to decry was for a mile radius, not two, as in the Insurance Committee's scheme. Medicine was not included, neither did it refer to night or special visits, and was intended to apply solely to those included in the £2 per week limit. So much for the mare's nest those sapient individuals have discovered, and so much for their invitation to the hard-headed electors of Lancashire and Cheshire not to be too much elated by the scale of fees considered by this modern Cincinnatus (*sic*) to be adequate remuneration.

To indicate the kind of men Drs. Bradshaw and Bushby are, and to point a moral for the general practitioner who permits them to masquerade as their "guide, philosopher, and friend," I may mention that, at a meeting of the committee appointed in Liverpool to examine into the Insurance Act, they took it upon themselves to advise the general practitioner as to what he should charge for medicines under the Insurance Act, and displayed such ignorance of their subject that Mr. Larkin, who was present, was constrained to jump to his feet and pour ridicule upon them, pointing out that they had never dispensed a bottle of medicine in their lives; they made no response, being covered with confusion. Yet these are the men the upholders of the acts and policy of the Council in the past, who seek to vent their spleen upon me, and to gull the electorate into the belief that they are competent.

In conclusion let me observe that the simile to Cincinnatus is really too much. Those gentlemen should really consider my innate modesty, and not put it to too severe a test. However, if, struggling hard against their natural tendencies, they are anxious, by instituting such comparisons, to buckle fame upon me, I must fain strive to bear it with that modesty and equanimity which I am confident they will be prepared to admit characterizes and becomes me so well.—I am, etc.,

Paramé, June 10th. J. E. O'SULLIVAN.

SIR,—In your issue of June 1st there is a letter over the signatures of Messrs. Wright, Hart, and Prowse wherein members are exhorted to vote for certain candidates for the Council of the Association, and it singles out for preference one of the two candidates for the combined Southern and Oxford-Reading Branches, ignoring altogether the other candidate, Dr. B. H. Mumby, who receives the practically unanimous support of the Southern Branch.

If the writers had taken the trouble to ascertain Dr. Mumby's views on current medico-political matters and had found them very much at variance with those advocated by the National Medical Union, I could have understood their interference with our affairs; but as, so far as I can learn (and I have taken some trouble to ascertain), they seem to have done nothing of the kind, their action seems to be as unreasonable as it is intrusive. Judging from Dr. Helme's letter in the same JOURNAL, it would appear that they have enough to do to settle their domestic differences, and without further comment on the above I think I can leave them at that.—I am, etc.,

Portsmouth, June 7th. JAMES GREEN,
Honorary Secretary, Southern Branch.

"OFFICIAL DUTIES" OF MEDICAL OFFICERS OF HEALTH.

SIR,—In the SUPPLEMENT to the BRITISH MEDICAL JOURNAL for May 11th, 1912 (Report of Council) there appears on pages 462 and 463 a statement, with respect to the following resolution of the Annual Representative Meeting at Birmingham, namely:

(I.)—PUBLIC HEALTH AND POOR LAW.

Question of Definition of "Official Duties" of Medical Officers of Health.

106. With reference to the following resolution of the Annual Representative at Birmingham:—

> Minute 141-3.—Resolved: That the following amended form of Minute 234 of the Annual Representative Meeting, 1909, be adopted:—
>
> That, in the general interests of Public Health and the Medical Profession, it is desirable (i) that Medical Officers of Health should, as a rule (and without prejudice to those at present holding part-time appointments), be required to devote their whole time to official duties; (ii) that all Medical Officers of Health should be adequately paid, districts being grouped where necessary to make this practicable; (iii) that all Medical Officers of Health should be admitted to participation in a Government Superannuation Scheme; and (iv) that all Medical Officers of Health should be protected, in the proper discharge of their duties, against capricious dismissal or reduction of salaries;

and the instruction (Minute 142) that in view of the last memorandum of the Local Government Board, the Council should frame a definition of the term "official duties" as used in paragraph (i) of Minute 141 (see above), the question of such definition has been considered.

It is then stated that the Association of Medical Officers of Health has been consulted, and a reply from that body has been received and considered; and next that the Council of the British Medical Association recommends:

Recommendation.

The Council recommends:

That the term "official duties" occurring in Minutes 141-3 of the Representative Meeting, 1911, be understood to include such duties as are comprehended under the terms of any definite official appointment which does not offer any opportunity for competition with any private medical practitioner.

Whilst we appreciate the courtesy of the British Medical Association in having consulted us on the matter, we are unwilling that any impression should be created that this Association of Medical Officers of Health is in any way responsible for the form that this recommendation of the Council of the British Medical Association has taken.

We therefore beg to enclose copies (1) of a letter from the Public Health Subcommittee of the British Medical Association submitting for our consideration the draft of the recommendation now made by the Council; (2) a copy of a letter addressed by our association to the Public Health Subcommittee in reply. We do not desire at the present moment to comment on the importance to the general practitioner of the situation created by the attitude of the Council of the British Medical Association, as the correspondence is in itself sufficiently explicit.—We are, etc.,

RASHELL DAVISON,
Chairman.
D. A. BELILIOS,
Honorary Secretary.

Correspondence with the British Medical Association.

January 10th, 1912.

Dear Sir,

The Public Health Committee of this Association has at the present time under consideration, on instruction of the Representative Body of the Association, the question of drafting a definition of the term "official duties" contained in the accompanying Minute 141 of the Annual Representative Meeting, 1911, concerning appointments of Medical Officers of Health.

The following definition has been provisionally approved by the Committee:

> "That the term 'official duties' occurring in Minute 141 of the Annual Representative Meeting, 1911, be understood to include such duties as are comprehended under the terms of any definite official appointment, but which do not offer any opportunity for competition with any private medical practitioner."

I am asked by my Committee to state that it will be glad to receive any suggestions that your association may desire to make upon the above draft definition before it is reported, through the Council of the Association, to the forthcoming Annual Representative Meeting to be held at Liverpool in July next. In order that the suggestions may be of any use for the above purpose they should be received here before March 28th.

I am,
Yours faithfully,
ALFRED COX,
Acting Medical Secretary.

Dr. D. A. Belilios,
Honorary Secretary, Association of Medical Officers of Health,
109, Queen's Road,
Wimbledon, S.W.

Association of Medical Officers of Health,
109, Queen's Road, Wimbledon, S.W.,
9th February, 1912.

Dear Sir,

I am obliged to you for your letter and enclosure of January 10th, 1912. In reply I am directed to observe that the provisional definition of the term "official duties," as therein occurring with relation to a particular context, does not appear to be altogether free from ambiguity.

For instance, is an appointment as lecturer on public health "a definite official appointment"? Would an appointment as physician to a general hospital be considered such an appointment? And does the medical superintendentship of an isolation hospital fall within the category?

Again, it may be asked, What is the definition of a private medical practitioner? Is a public vaccinator, engaged in private practice, a private medical practitioner? If so, equally a medical officer of health engaged in private practice is a private medical practitioner, and comes within the protecting scope of the resolution.

Moreover, it does not appear how the words "opportunity for competition" are to be construed. If they have reference to competition arising in the course of candidature for appointments, it would appear, then, that any appointing committee would easily evade the intention of the resolution by making it a condition of the appointment that applicants should *not* be engaged in practice. If, on the other hand, it refers to competition arising in the course of the *execution* of duties, it appears that there are two varieties of such competition to be considered. First, there is that form of competition generally referred to as "attracting other people's patients."

Medical officers of health are to be debarred from this, of necessity, if the policy of the British Medical Association is fulfilled, though public vaccinators, police surgeons, and other officers are, we understand, not to be restrained by any but ethical considerations. No doubt the British Medical Association has cogent reasons for assuming that medical officers of health are less inclined to submit to purely ethical considerations than are other practitioners. But these reasons have never yet been stated.

The second variety of competition that may arise during the execution of official duties is that which depends on the very nature of the duties themselves. For instance, the duties of a factory surgeon are fulfilled without the slightest direct or indirect competition with others. That is to say, the inspections made by a factory surgeon in no way tend to decrease the income of any other practitioner. But a medical superintendent of an isolation hospital, it may well be maintained, is, by being a party to the treatment of persons in hospital, decreasing the income of, and entering into competition with, the practitioner who would willingly treat the sick persons at home.

It appears, indeed, to my Council, that the Public Health Committee of your Association is endeavouring to express, in the terms of one resolution, two distinct principles. The first: That medical officerships of health which at present carry with them the privilege of engaging in practice, ought to be converted into medical officerships which do not carry with them such a privilege. The second: That this change should be carried out (*a*) without detriment to the general medical practitioner who holds *other* than medical officerships, and (*b*) without detriment to the holders of certain official posts (other than medical officerships of health), who may or may not engage in private practice.

The difficulty, in the opinion of my council, depends on a truth, which is evidently appreciated by the Local Government Board, namely, that no practical way has yet been shown of carrying into effect your Association's *first* principle without serious conflict without your Association's *second* principle.

My association has always been of the opinion that no action can easily be taken in the way of abolishing the "medical officer of health engaged in practice" that does not seriously tend to injure the general practitioner at large, whether he be an actual or only a potential holder of appointments.

A further difficulty is that which may shortly arise in connexion with the working of the National Insurance Act.

Will appointments under this Act be "definite official appointments"? Or are they elements of private practice? Or both? Or neither?

Your Association is no doubt aware that it is the plan of the Government to supplement the incomes of "blackleg" medical officers under the Insurance Acts, by conferring on them, as opportunities occur, such posts as medical officerships of health, etc., with the view: (1) Of rendering them free from the calls of ordinary practice; (2) of causing them to become dependent entirely on the State for their professional income. Incidentally, it will doubtless be stated that, in carrying out this plan, one of the greatest principles of the British Medical Association—that general practitioners should not be allowed to hold posts as medical officers of health—will be realized.

It would seem, in all seriousness, that the present time is one for a reconsideration of the whole matter. My Council hope earnestly that your Committee, realizing the common danger of the profession, may feel the time opportune for recommending that, in view of the present circumstances, the opposition of the British Medical Association to general practitioners being medical officers of health should be dropped, as this opposition can hardly materialize without injury to the whole body of practitioners; and, if it does not so materialize, any resolution expressing the present policies of the Association must necessarily be ambiguous, unsatisfactory, and a constant cause of irritation and misconstruction.

I am, Sir,
Your obedient Servant,
D. A. BELILIOS,
Honorary Secretary.

Alfred Cox, Esq.,
Secretary,
British Medical Association.

"SIR CHARLES BELL AND WATERLOO."

SIR,—With reference to your annotation in last week's issue under the above heading, I have not had the pleasure of reading Dr. Fitchett's article in the *Cornhill Magazine*, entitled "One of the Puzzles of Waterloo," but in case the observations of Henry Houssaye, in his "1815," have escaped his notice, I would draw his attention to them. In the sixty-fifth edition of that scholarly work, and in that volume which deals with Waterloo, this distinguished writer, a member of the Académie Française, whose studies of the two closing years (1814 and 1815) of Napoleon's career are classical, makes the following comment (p. 323):

> La carte de l'état-major belge indique inexactement comme l'emplacement de l'observatoire de Napoléon le point 150, à 700 mètres à l'ouest de la route. On avait élevé là, en 1815, un observatoire trigonométrique en bois de charpente pour des opérations cadastrales. (Voir le plan de Craan et Mauduit, II, 255.) Mais Napoléon n'y vint pas. Wagner (IV, 62) est bien renseigné en disant que cet observatoire ne servit pas aux Français.

The Emperor, according to Houssaye, at first posted himself on an eminence near the farm of Rossomme, which was hard by the route from Brussels to Charleroi, and later he was located at or in the neighbourhood of the house of the guide Decoster. The author, as usual, gives references in support of his statement.

The myths about Napoleon are no doubt more numerous than the facts. This, about climbing a scaffolding, is only another story, differing from others in that it is somewhat "taller."—I am, etc.,

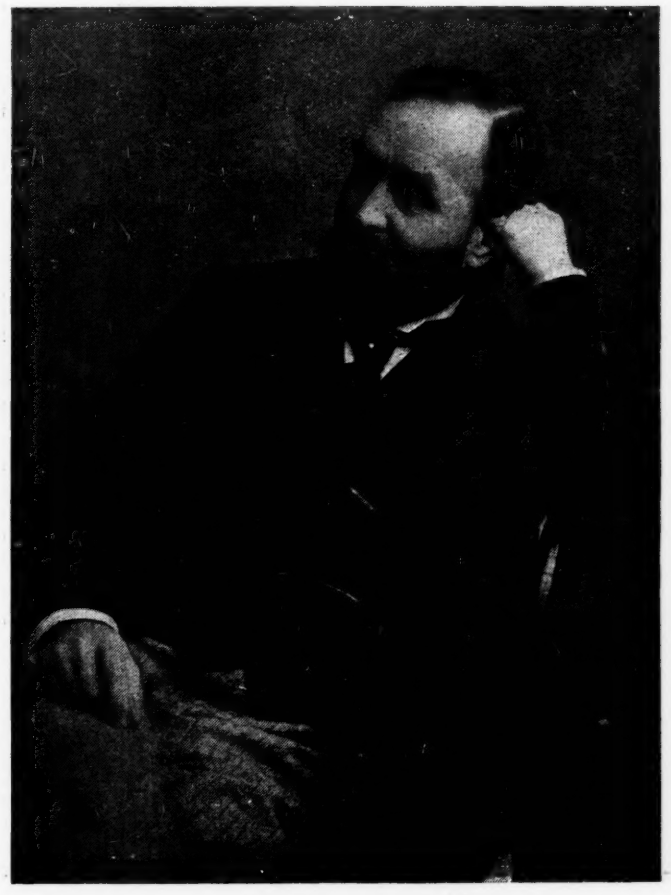
Cardiff City Mental Hospital, June 10th. EDWIN GOODALL.

Obituary.

SIR WILLIAM THORNLEY STOKER, BART., M.D.,

DUBLIN.

By the death of Sir Thornley Stoker Irish surgery has lost one of its most brilliant exponents, and Dublin society one of its best known and most widely esteemed figures. He was the son of Abraham Stoker, who for fifty years occupied an important position in the office of the Chief Secretary for Ireland. Born sixty-seven years ago, the eldest of a family several of whose members have won distinction in varied fields and in diverse parts of the empire, young Stoker was sent to an English public school, and thence to study medicine at the Royal College of Surgeons, Dublin, and Queen's College, Galway. He took the degree of M.D. in the Queen's University (subsequently merged in the Royal University) in 1866 and at once devoted himself to private teaching. His success was remarkable from the outset, and in a very short time he was appointed to the surgical staff of the City of Dublin Hospital. In 1873 he migrated to the Richmond Hospital, as the group of hospitals—Richmond, Whitworth, and Hardwicke — are popularly known wherever Irish students congregate. In the wards of the old Richmond, made famous by the work of Adams, Smith, Corrigan, and many others, he proceeded by hard work and the accumulation of experience to train himself for the distinguished place he was afterwards to fill in Irish surgery. He filled the Chair of Anatomy at the School of the Royal College of Surgeons in Ireland for some years, resigning it, when his outside work expanded, into the hands of the late Professor Daniel Cunningham. He held the Examinership in Surgery in the Royal University of Ireland, and earned the reputation of being exacting as to knowledge but generous in marking. He was Surgeon to Swift's Hospital, the famous foundation of the great Dean, "for fools and mad." He was Inspector of Vivisection for Ireland, and held the office of His Majesty's Inspector under the Anatomy Acts, in succession to his brother-in-law and hospital colleague, the late Sir William Thomson, C.B.



SIR WILLIAM THORNLEY STOKER, BART.

Photograph by] [*Werner and Son, Dublin.*

These multifarious duties did not exhaust his activities. He took great interest in hospital administration. He was a Governor of Swift's Hospital, and also of the Richmond. On whatever administrative board he sat his was a dominant voice, for he spoke out of full knowledge, and with manifest and unselfish earnestness. The late Sir William Thomson and he were responsible for the establishment of the school of nursing at the Richmond; and it was to their courage and energy that the rebuilding of the Richmond surgical block in 1899–1900 was largely due. Had their courage failed them the block would have been far from the beautiful building it is to-day; with less energy the hospital might have been crippled by debt. But they nerved the Board of Governors to build on the most generous scale, and they found equally generous donors to pay for it.

The character of Sir Thornley Stoker's surgical work may be judged by the titles of some of his contributions to the *Proceedings* of the old Surgical Society and of the Royal Academy of Medicine. They included: "Hysterectomy and Ovariotomy," 1880; "Removal of Thyroid Gland," 1883; "Excision of the Knee-joint," 1887; "Epidural Haemorrhage Treated by Trephining," 1888; "Laparotomy in Ectopic Gestation," 1889, and many others on matters which then were, or have since become, "live" problems. On account of his connexion with Dean Swift's foundation, he took a special interest in the surgery of the cerebro-spinal cavity. He drained cerebral abscesses successfully in the Eighties, and performed decompression operations long before the name was invented. He attained great skill in lithotrity, and was among the first to practise prostatectomy, advocating that operation as warmly as the late Sir William Thomson. As of another great Irishman, it may be said of him, *Nihil tetigit quod non ornavit.*

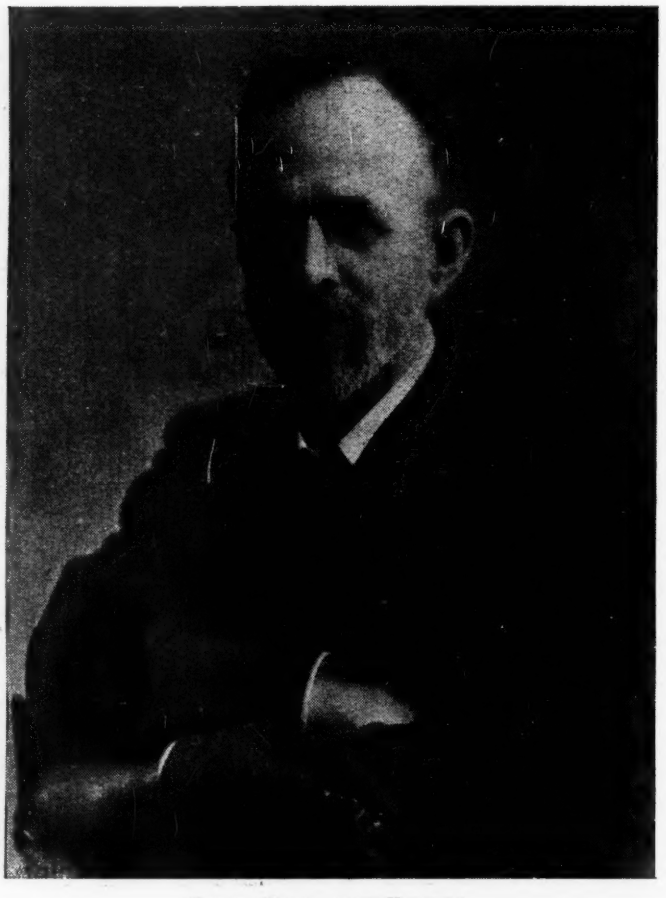
He was, however, no mere individualist in his profession. His was eminently the social mind. He took a warm and fighting interest in medical affairs and many public movements. The grievances of the Irish Poor Law doctor, the evils of the workhouse system, the prevention of cruelty to animals evoked his enthusiasm. And his profession gave him in return all its honours. He was President of the Royal College of Surgeons in Ireland in 1894–6, and President of the Royal Academy of Medicine—the most honourable prize of the profession of medicine in Ireland—in 1903–6. The Royal University gave him the degree of M.Ch. *honoris causâ*. In 1895 the honour of knighthood was conferred on him, and last year, to the great satisfaction of the whole profession and of his fellow-citizens, the Coronation honours brought him a baronetcy to crown a career of brilliant surgical and social work.

But during all those hard-working years Sir Thornley Stoker was by no means a man of one pursuit. He had always been interested in art; had held the honourable if not very onerous office of Professor of Anatomy in the Royal Hibernian Academy of Art; had been a useful and energetic governor of the Dublin National Gallery; and had built up what was, for a practising medical man at least, a unique collection of objects of antique art. Old English and Irish silver, bronzes, Oriental porcelains, and exquisite old furniture made his house a place of pilgrimage for connoisseurs. His circle of friends corresponded to his tastes; and it is safe to say that few artistic or literary persons spent much time in Dublin during the last twenty years without gravitating to his beautiful residence, Ely House, and enjoying a hospitality as large-hearted as it was refined.

Two years ago, feeling that the strain of work was beginning to tell upon him, he resigned the surgeoncy to the Richmond Hospital. It cost him a bitter pang; softened by the fact that at the unanimous wish of his

colleagues the Board of Governors appointed him to be the first Consulting Surgeon to the hospital. He continued to attend the meetings of the Board of Governors assiduously, and his love for the hospital was as warm and active as ever. But his friends were pained to see that his own anticipations were but too well justified by the manifest failure of his health. The pain of declining out of active life was mitigated by the devoted attention of a group of friends whose love was the best testimony to his worth. To him were given in abundance "honour, love, obedience, troops of friends." Recently he began to suffer from cardiac weakness, as a sequel to arterio-sclerosis, and the end came gradually, painlessly, and peacefully, as sleep to a child, on the first day of this month.

No estimate of his character would be complete which did not emphasize two outstanding points—namely, his almost too sensitive devotion to his poor hospital patients and his unusual quickness in appreciating and generosity in encouraging merit in young men. Over and over again, in every year of his hospital work, had he been in the wards, not once, but twice and three times a day, making sure that all was well with patients whose only reward to him could be a prayer. Not ten days in the year, apart from his month's vacation, failed to find him at work in the hospital. His readiness not merely to recognize, but to force out and bring to public notice, whatever was good or original in his younger colleagues, was the work of a man conscious of his own strength, but conscious also that each age must lean not merely on that which precedes, but on that which follows it, if it is itself to bring forth its best fruit. He retained to the end a sensitiveness to all high ideals which the rough friction of the world too often dulls in men of common mould. His family motto, *Quid verum atque decens* ("whatever is true and honourable"), fitly sums up Sir Thornley Stoker's life.



ROBERT NIGHTINGALE HARTLEY.
Photograph by [*James Bacon and Sons, Leeds.*

Mr. ROBERT H. WOODS, ex-President of the Royal College of Surgeons, a former colleague of Sir Thornley Stoker, has sent us the following appreciation of his friend:

It is difficult in the gloom of the shadow of death to describe in adequate terms the qualities and character of the man whose loss we mourn to-day. Sir Thornley Stoker's many-sided personality cannot be summed up in a few words, and except to those who knew him intimately any account of it might well seem exaggerated. His wide sympathy with almost every phase of human activity was such as is only to be found among the most richly endowed of men.

He was a born surgeon. His early training as an anatomist equipped him for surgical work of the highest order; and when to this was added a delicate muscular sense, accuracy of observation, a habit of logical and reasoned thought, and the courage born of strong conviction and a high sense of duty, it is no wonder that we had in him one of the first surgeons of our time.

He was an earnest student of literature and a keen critic of style. His professional writings were forceful and terse, while his private letters show a mastery of elegant English. He was an acknowledged authority on questions of art, and had an unerring judgement of the artistic values of form, colour, and material.

His hospitality was unstinted. In his house his guests found themselves in an atmosphere of geniality, cordiality, and ease of no common order. This delightful effect was enhanced in no small degree by the presence and influence of the remarkable woman he had married, whose charm, attainments, and strength of intellect made her as conspicuous among women as he was among men.

But however one may speak of his professional eminence, his literary, artistic, and social proclivities, yet when all is said, one has scarcely touched the man himself—intensely human, entirely lovable, genial, sympathetic, and great hearted.

ROBERT NIGHTINGALE HARTLEY, M.B., B.S.LOND.

IT is a peculiarly difficult and delicate task to attempt to convey in a brief sketch a just and true impression of the striking personality of the late Robert N. Hartley, and of the sad, strenuous, memorable life that has just closed; but it is a life that ought to have its record here, for he was regarded with great sympathy and with deep respect and affection by a large circle of friends, patients, and students, and the world is better because he lived.

He was born at York in 1854, and was son of the Rev. John Hartley, afterwards Principal of the Handsworth Wesleyan College at Birmingham. Various members of this family have rendered eminent public service in Church and State, amongst them the eldest son, the late John Anderson Hartley, Vice-Chancellor of the Adelaide University, and Inspector-General of Schools in South Australia, whose name is still a household word in that province. Robert N. Hartley was educated at Woodhouse Grove School, near Leeds, and at the Leeds School of Medicine, being also pupil to Dr. Thomas Dobson, who lived to be the patriarch of medicine in Leeds. Hartley also studied for a time at King's College under Lister, and at Moorfields Ophthalmic Hospital under Bowman. About 1875–6 he was Resident House-Surgeon in the Leeds Infirmary—a post which at that time could be held before qualification. It was at this time that the catastrophe happened which overshadowed his whole after-life. One night, when returning to the infirmary from a visit to a medical friend, he was decoyed into a dark street, assaulted, and robbed of watch and purse. He believed he was struck with a stick. He was brought unconscious to the infirmary, when his empty pockets, the condition of his clothing, and a rent through his hat quite bore out the above statement. He was ill for several days with symptoms of concussion, and after recovery was advised to give up study for a long time. He neglected this advice, and proceeded to take his degree. After this time he began to suffer from epileptic attacks. At first the attacks were slight and at long intervals, and as the condition was traumatic it was hoped that he would grow out of them. He used to point to a painful area on the forehead and say that the mischief was there, and would even talk of being trephined, but this was never carried out.

It seemed to those who knew Hartley then, and to many of us now on retrospect, that, had his health been restored, his path to distinguished success was assured. He was appointed on the staff of the medical school, became Surgeon first to the Leeds Dispensary and then to the infirmary; he established himself in practice as a specialist in surgery and ophthalmology, and was associated with Mr. T. Pridgin Teale. His intellectual endowments were great; he was an able ophthalmic surgeon, and possessed administrative ability, powers of inspiring confidence in patients and practitioners, and the highest personal character. But the hope of recovery was not realized. In 1896 he was obliged to retire from the infirmary on grounds of health. Such a painful and disastrous crisis in a life's career would have caused many men to give up the profession and to become soured, morose, and misanthropic; but to give up, to whine and mope were not in him, and it was now that he began to show what manner of man he was. His nearest friends never heard him complain of his lot. He sought to lose himself in doing carefully day by day what public and private work came to hand, and especially in seeking out and helping any who were in trouble. In his long course of work at the medical school he demonstrated anatomy for three years, and then for twenty years was Lecturer or Professor of Public Health; he took a prominent part also in the administrative work, and promoted by his personal influence the welfare of the school during the critical period of its evolution from the Leeds School of Medicine into the Faculty of Medicine in the University of Leeds.

He gave away his time and money lavishly, and rendered an extraordinary amount of gratuitous professional service to any whom he could find excuse for attending for nothing. He took the keenest interest in the special schools for the blind, deaf and dumb in Leeds. He was an associated member of the municipal committee for this purpose, and honorary advisory ophthalmic and aural surgeon to the schools. He visited these schools constantly, almost daily, knew every child individually, and sought methods of promoting their enjoyment—such as accompanying parties to the seaside, and the like. He was also a member of the governing body of the Normal Institute at Norwood. He had a peculiar gift for helping men who needed help, and there are many who acknowledge the deepest obligation to him, especially amongst the medical students of his day, whom he influenced by advice and friendship. He served on the boards of various philanthropic institutions, which made great demands on his time and strength, but he thought no trouble too great for such work. He had special interest in medical missions, and in attempting to secure their conduct on the best scientific lines, and was much interested in the work of the Students' Christian movement. How much more he did no one can say, for he did good by stealth and was as much annoyed at having his good deeds brought to light as other men at the exposure of their misdeeds.

Fond of seclusion and retirement, he found recreation in good literature, and in such retreats as the Yorkshire dales and the Lake district afford to those who love Nature. He had many warm friends, especially amongst those whom he had himself befriended. He never seemed well for long periods, and suffered from many forms of illness. His work was done in spite of all this, often when he was not fit to go about. If he was sometimes found fagged out almost to incoherency and unlike himself—with perhaps queer lapses of judgement, which puzzled his friends—the explanation is now very obvious. He was a man of strong convictions, which he was quite able to express with emphasis and even vehemence and without fear of persons. When well, he was a delightful companion and conversationalist.

He worked up to a few months ago, when laryngeal disease developed and his health rapidly failed. A voyage to the Cape was undertaken without benefit, and he returned home to die. Fortunately he was spared the worst possibilities of his ailment, and passed away rather suddenly and very peacefully from heart failure, on May 21st, at Ilkley. He was never married, but he was nursed and cared for by his sister with a devotion that could not be surpassed. A man of purer spirit, more unselfish, generous, patient, and brave has never lived amongst us. The simple plan and aim of his life was to carry out in the work of every day the teaching of the New Testament. Will those who knew Robert Hartley say if they ever met a man who succeeded better?

J. F. M. MILES, J.P., L.R.C.P., L.R.C.S.EDIN.,

MEDICAL OFFICER TO THE WORKHOUSE HOSPITAL AND DISPENSARY DISTRICT, DINGLE, CO. KERRY.

THE much lamented death of Dr. Miles, of Dingle, has removed a familiar face from the medical profession in Munster and in the south-west of Ireland. It has been the lot of very few to gain the universal esteem and love of his fellow men as Dr. Miles secured it. To rich and poor alike in the district the news of his demise came as a grievous shock. Their kind friend and skilful physician had been taken from them, a martyr to his devotion to his work. He was operating on a case of bone disease and got cut either by bone or bone forceps. Acute septicaemia rapidly followed, to which he succumbed on the evening of May 16th, aged 67 years.

It was said by one who had a close knowledge of him for eleven years: "I have had much opportunity in the past of becoming intimately acquainted with all classes of medical men, and do not hesitate to say that I look on Dr. Miles as one of the most careful, and at the same time best qualified man I have ever met. He has besides the advantages resulting from a large hospital and other wide practice, wisely derived the highest benefit from both, inasmuch as he has kept up his reading, and is fully abreast with modern discovery and modes of treatment. I have seen a great deal of Dr. Miles in the sick-room both of rich and poor—keen, ready, cautious, cool, never noisy nor rough, a gentleman to all alike, calm and sympathetic, always kind, and never hasty in his manner, and is in consequence most thoroughly esteemed and loved."

This was written of him in 1887, being as true then as on the day of his death twenty-five years later. He never wearied in his devoted attention to any needing his care, and his genial and kindly hospitality to any who might visit the lovely and interesting country of Corcaguiney in which he resided will be forgotten by none of those who were privileged to enjoy it.

He obtained his diplomas in 1869, and succeeded his uncle, Dr. Williams, in 1870. The remoteness of Dingle, the town in which he practised through the whole of his medical life, it might have been supposed would have caused him to get out of touch with the great advances in science, but from Dr. Miles the poor of his wide district had everything that modern research has unfolded. His workhouse hospital was by his intelligent care made one of the most perfectly equipped in Ireland. All connected with it were dominated by his cheery hopeful manner, and co-operated with him with confidence and zeal to carry out the main object of his life—the care of the sick poor. In his relations with patients and his fellow practitioners in Kerry self-interest never came in. Dingle will long cherish his memory for the cordial self-sacrifice with which he threw himself into any project for the good of the locality and its people.

Dr. Miles was sprung from a good old Kerry family. He was born at Callinafercy, Milltown, co. Kerry, the residence of his father, Mr. William N. Miles. He was educated for the medical profession at the Cork Medical School of the Queen's University, and took the Licences of the Edinburgh Colleges in 1869. He married, in 1871, Miss Mary Pearde Nash, only daughter of the Rev. Robert Spread Nash, of Fermoy, co. Cork, and had nine children, of whom five survive him. One son, Dr. George Miles, entered the medical profession, and is in practice at Farnham, Surrey.

All that was important as regards medical politics had his earnest solicitude, and he recently came the long journey from his home to attend the mass meeting of the Munster medical men, held in Cork to consider the Insurance Act. He was, in fact, so recently in our midst discharging his duties as a practitioner, and upholding our professional dignity, that it is difficult to realize we shall see him no more.

The large funeral and the great number of wreaths bore sorrowful testimony to the general esteem in which he was held.

The well-known and beautiful lines from *In Memoriam* will ever be recalled by those who knew him well and loved him:

I climb the hill; from end to end
Of all the landscape underneath,
I find no place that does not breathe
Some gracious memory of my friend.

THE LATE DR. O'LOUGHLIN.—The Royal College of Physicians of Ireland has adopted the following resolution on the death of Dr. F. W. N. O'Loughlin, L.R.C.P.I., late Senior Surgeon White Star SS.Company:

The President and Fellows of the Royal College of Physicians of Ireland desire to place on record their deep sorrow at the tragic death of Doctor Francis William Norman O'Loughlin, a Licentiate of the College, who, with so many others, lost his life at the sinking of the ss. *Titanic* on the morning of April 15th, 1912.

Dr. Loughlin's long professional life was spent in the service of the White Star Company, and by a faithful and conscientious discharge of his duties he had won for himself a high place among its officers. As his life was spent so he met his death, ministering to the wants of others in the last dread moments that preceded the sinking of the ship.

The President and Fellows feel that Dr. O'Loughlin, by his conduct both during his life and at his death, has maintained the highest traditions of the profession and of his College, and they tender to his relatives the most sincere sympathy of the College in their sad bereavement.

Universities and Colleges.

UNIVERSITY OF LONDON.

UNIVERSITY COLLEGE.

THE post of Senior Assistant in the Department of Zoology and Comparative Anatomy has been filled by the appointment thereto of Mr. W. J. Dakin, D.Sc., at present Assistant Lecturer and Demonstrator in Zoology in the University of Liverpool.

LONDON SCHOOL OF MEDICINE FOR WOMEN.

Prize Distribution.

The prizes for the year were distributed on June 7th by Sir William Collins, M.D., Vice-Chancellor of the University of London.

Mrs. Garrett Anderson, M.D., the President of the school, who was in the chair, said that in the twelve months under review there were 147 students in attendance. Seventeen took the M.B. and B.S. degrees of the University of London, and nine former students the M.D. degree, while four secured degrees at Durham. Miss Davies-Colley, M.D., a former student, was also the first woman to become a Fellow of the Royal College of Surgeons.

Sir William Collins, in an address, said that the University of London was the first body to recognize that women should be accorded the same opportunities as men in respect of higher education and should be allowed to proceed to degrees under the same conditions. It was in 1878 that it first put this principle into practice and threw open its doors to women. The extent to which the latter had taken advantage of this circumstance was shown by the number of women graduates on the rolls of the various faculties of the university. Bachelors of arts numbering over 2,000 headed the list, then came 600 bachelors of science, 180 masters of arts, 170 bachelors of medicine, 80 doctors of medicine, 25 doctors of science, 6 masters of surgery, 4 bachelors of law, 4 bachelors of divinity, 3 doctors of literature, 3 bachelors of music, and 2 doctors of law. In addition two members of the Senate were ladies. The higher education of women was therefore now an accomplished fact. Their advent in medicine would, he thought, operate in the direction of importing into practice high ideals and aspirations which would remove from it a certain commercialism and materialism apt nowadays to beset it.

THE COUNCIL OF THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.

The Election of Councillors.

THERE are seven candidates for the four vacancies on the Council of the College to be elected on Thursday, July 4th. All three retiring members have offered themselves for re-election, and there is a vacancy caused by the decease of Sir Henry Butlin; the substitute member will hold office till 1919. The retiring members of Council are Sir Frederic S. Eve (Fellow, December, 1878; Member, August, 1876); Sir Anthony A. Bowlby, C.M.G. (Fellow, June, 1881; Member, July, 1879); Mr. Gilbert Barling (Fellow, December, 1881; Member, July, 1879). The new candidates are, in order of seniority as Fellows: Mr. James Ernest Lane (Fellow, December, 1882; Member, May, 1880), Senior Surgeon to St. Mary's Hospital; Mr. D'Arcy Power (Fellow, December, 1883; Member, January, 1882), Surgeon to St. Bartholomew's Hospital; Mr. L. A. Dunn (Fellow, June, 1884; Member, April, 1882), Surgeon to Guy's Hospital; and Mr. B. G. A. Moynihan (Fellow, October, 1890, Member, November, 1887), Surgeon to the Leeds General Infirmary, and Professor of Clinical Surgery in the University of Leeds.

ROYAL COLLEGE OF SURGEONS IN IRELAND.

THE annual election of the President, Vice-President, Secretary, and Council for the ensuing year was held on June 3rd, and the following were elected:

President, Mr. Richard D. Purefoy.
Vice-President, Mr. F. Conway Dwyer.
Secretary, Sir Charles A. Cameron, C.B.
Council, Mr. R. H. Woods, Sir John Lentaigne, Sir Henry R. Swanzy, Sir Arthur Chance, Sir Charles B. Ball, Bart., Sir Thomas Myles, Mr. R. Lane Joynt, Mr. E. H. Taylor, Mr. W. I. Wheeler, Mr. W. Stoker, Mr. H. G. Sherlock, Mr. A. Blayney, Mr. F. T. Porter Newell, Mr. R. C. B. Maunsell, Sir Lambert Ormsby, Mr. Wm. Taylor, Mr. Trevor M. Smith, Mr. R. Bolton McCausland.

The Services.

GLASGOW R.A.M.C. TERRITORIAL UNITS.

THE Glasgow units of the Royal Army Medical Corps (Territorial Force) held a combined field day at Blackhill Farm, near Maryhill, on June 8th. The programme was arranged by Lieutenant-Colonel A. Dryden Moffat, M.D., commanding the units. The Lowland Mounted Brigade Field Ambulance formed collecting and dressing stations, while the 2nd Lowland Field Ambulance acted as a bearer company, and transferred its wounded to a dressing station formed by the 1st Lowland Field Ambulance. The Mounted Brigade Field Ambulance was under the command of Lieutenant-Colonel H. Wright Thomson, M.D., the 1st Field Ambulance under Lieutenant-Colonel G. H. Edington, M.D., and the 2nd under Major P. F. Shaw. Lieutenant-Colonel A. D. Moffat, M.D. (T.F.) was in command of the combined units, and during the afternoon the operations were inspected by Colonel D. J. Mackintosh, M.V.O., the Assistant Director of Medical Services for the Lowland Division.

The church parade of the combined units, including the 3rd and 4th Scottish General Hospitals, took place in the Bute Hall of Glasgow University on the afternoon of June 9th. The Rev. Dr. Thomas Adamson, chaplain, officiated, and the lessons were read by Lieutenant-Colonels Moffat and Edington.

The field units, which are at full strength, hold a combined camp at Lanark during the last fortnight of July.

Public Health AND POOR LAW MEDICAL SERVICES.

POOR LAW MEDICAL OFFICERS' ASSOCIATION OF ENGLAND AND WALES.

THE annual meeting of this Association will be held at the Council House, Bristol, by invitation of the Lord Mayor, on Tuesday, June 25th, at 2 p.m. A paper entitled The Poor Law Service as affected by the National Insurance Act will be read by J. J. Simpson, Esq., Clerk to the Bristol Guardians. Another by Dr. C. E. S. Flemming, of Bradford-on-Avon, is entitled Difficulties in the practice of the Poor Law medical officer. Dr. C. H. W. Parkinson, Medical Officer of Health for the Wimborne Minster Urban District Council, will open a discussion On the necessity of union among all medical officers holding part-time appointments. It is hoped that many part-time medical officers will attend, and a cordial invitation is issued to all who care to be present.

The usual dinner will take place in the evening at the Royal Hotel, College Green, Bristol, at 7.30 p.m., when the Lord Mayor and Lady Mayoress, the High Sheriff of Bristol, and the Right Revs. the Lord Bishop of Bristol and Bishop of Clifton are expected to be the guests of the association. Tickets 7s. 6d., not including wine. Application for tickets should be made to Dr. William Brown, Park View, Fishponds, Bristol. Members are invited to bring ladies with them.

ATTENDANCE ON BOARDED-OUT CHILDREN.

A CORRESPONDENT who is one of the district medical officers of a union was requested to attend two children in cottage homes by the boarding-out committee. He declined, and after some discussion at the next board meeting, the relieving officers were instructed to issue medical orders for all such children requiring attendance. He asks whether this is within the power of a board of guardians.

*** If the cottage home where the children are boarded out is within the district of the medical officer he is bound to attend any requiring medical services on receiving a lawful order from the relieving officer. Such a practice is not unusual.

Medico-Legal.

BELL *v.* BASHFORD AND THE BRITISH MEDICAL ASSOCIATION.

(Before the LORD CHIEF JUSTICE *and a Special Jury.)*

THIS was an action brought by Dr. Robert Bell to recover damages for an alleged libel from Dr. Ernest Francis Bashford and the British Medical Association. The libel was said to have been contained in the JOURNAL of May 27th, 1911. The defendants, by their defence, admitted publication, but pleaded that in so far as words used consisted of allegations of fact they were true in substance and in fact, and that in so far as they consisted of expressions of opinion they were fair comments made in good faith and without malice upon the facts which were matters of public interest.

Mr. Shearman, K.C., Mr. Lewis Thomas, K.C., and Mr. W. de B. Herbert (instructed by Messrs. W. H. and A. G. Herbert) appeared for the plaintiff; Mr. Duke, K.C., Mr. Holman Gregory, K.C., and Mr. R. F. Colam (instructed by Messrs. Hempsons), for the defendants.

Mr. Shearman, in opening the case, said that it was one of serious import. The defendant, Dr. Ernest Francis Bashford, was a distinguished member of the medical profession. The plaintiff was also an eminent member of that profession, and had at one time been Senior Physician at the Women's Hospital in Glasgow. During the last few years he had devoted—counsel used the word devoted in the strict sense—his attention to the study and cure of cancer. In these circumstances the defendant, Dr. Bashford, had made a savage attack upon him, and had described him in the pages of the BRITISH MEDICAL JOURNAL—a paper which came into the hands of the entire medical profession—as a quack. It was therefore necessary that the jury should know something about his client. He had written on the treatment of diphtheria; he was the pioneer of the discovery of the secondary treatment of small-pox, having written an article on that subject in 1876. He was an early advocate of the open-air treatment of consumption; and since 1894 he had devoted himself to the cure of cancer. He had often operated for cancer; but after much study he came to the conclusion that operations for cancer were useless, and in 1894, after years of experience, he decided never to use the knife again. For the last eighteen years he had been devoting his life to the study of the question whether this disease could be alleviated. The defendant, Dr. Bashford, adhered to the old and orthodox view that cancer could only be surgically treated. The orthodox or surgical theory was that it was a local disease. The late Sir Henry Butlin thought it was a germ disease. Dr. Bell's view was that it was a blood disease; and he believed that prevention was better than cure. He also thought that it could be treated by an alteration of diet. His view was that the disease should be prevented at an early stage; and that by adopting a diet consisting of cheese, milk, uncooked vegetables, nuts, etc., by making sure of an evacuation once a day, and enjoying plenty of fresh air, the onset of the disease could be prevented. The surgeon, in his view, forgot that if one took away the breast of a woman suffering from cancer one did not remove the source of the disease. It will recur. The plaintiff had applied various remedies—for example, thyroid gland, formic acid, and hot air, and finally, always keeping his mind open to any new discovery, he had advocated the use of radium. He did not desire to keep his remedies secret, and for many years he was taken as a collaborateur. But the Cancer Research Committee had issued their final ukase to the effect that there was no cure for the disease and that the knife was the only remedy.

In May, 1911, the British Medical Association had published a special number of the JOURNAL, entitled "Quacks and Quackery." It contained an article by the defendant, Dr. Bashford, and it would be necessary for them (the jury) to see the whole article. The words "Quacks and quackery" were important for them to consider. Quack was defined in *Johnson's Dictionary* as "a pretender to medical skill not possessor." *Webster* defined it as "a boastful pretender to medical skill." In *Skeats's Slang Dictionary* it was defined as "one who cries up pretended nostrums." He (counsel) suggested that when one uses the word "quack" the suggestion is that a man is lining his pockets by selling something which he knows to be useless. It appeared from the correspondence that the Editor of the BRITISH MEDICAL JOURNAL desired to have an article on quack remedies in relation to cancer. The article complained of (see BRITISH MEDICAL JOURNAL, May 27th, 1911, p. 1221) was headed "Cancer, Credulity, and Quackery," and was written by Dr. E. F. Bashford. That article contained the passages of which the plaintiff complained. Counsel here read and commented upon extracts from Dr. Bashford's article, "Credulity and Quackery," which were said to constitute the libel. In the course of his article he stated that a study of information received by him revealed an astonishing amount of credulity on the part of "the public towards cancer cures." "What is much more serious," he went on, "is the evidence obtained that a few members of the medical profession screen, or countenance, the rankest forms of quackery. I have good reason for believing that to-day in London, and elsewhere throughout the country, members of the medical profession, practising as 'cancer curers,' knowingly and deliberately trade upon the anxieties and credulity of the public in all that pertains to the etiology and the treatment of cancer." Counsel said that the most serious part of the article was the publication of stories of quacks of a former time, of whom, in a later part of the article, the plaintiff was said to be the modern exponent. The article set forth two stories from a lecture by Sir Spencer Wells in 1857, "which depicted a state of affairs still obtaining after sixty-five years." These stories related to one quack who killed his patient by destroying the coats of a large artery with caustic; and to another who was so ignorant of medicine that he did not even know the signs of life, and was found applying a poultice to the breast of a dead woman. The defendant had also written in his article: "The opportunities for the quack are great for this reason alone, that all are familiar with the term; all dread the disease, no man comprehends it, and the quack seizes every opportunity to exploit uncertainty, ignorance, fear, and credulity when honest men offer no alternative to the knife." That paragraph, said counsel, came to this, that no honest man can suggest any alternative to the knife. Was that legitimate controversy? Was it fair comment on a matter of public interest? The defendant appeared to attribute the vilest motives to the plaintiff. In other parts of the article Dr. Bashford had set forth, and made comments upon, passages in the plaintiff's books. Thus the plaintiff had written: "Consider the various effects of a contaminated blood stream upon the epithelial cell, the culminating point of the pollution resulting in cancer. It is of no more avail to excise the local manifestation of blood contamination, which cancer undoubtedly is, and then expect to eradicate the constitutional affection than to cut out a piece of dry rot in a ham without adopting means to remove the cause of the mischief." "These quotations," wrote Dr. Bashford, "are from a chapter entitled 'The Evolution of the Cancer Cell,' in a booklet by Dr. Robert Bell, and are avowedly intended to divert the cancer sufferer from the assistance of surgery." He alleged that Dr. Bell kept alive the old fallacies about cancer being a "blood disease. . . . Such books as that of Dr. Robert Bell appeal especially to those fearing lest they be victims of cancer, and can hardly be expected to serve for the enlightenment of the medical profession." At the part of the JOURNAL where these words appear there appeared the picture of a gentleman who was supposed to represent a quack. What he (counsel) complained of was that this article grouped Dr. Bell with persons who were selling humbugging medicines and quack remedies of all kinds. The article went on to describe Dr. Bell as the modern representative of the practitioners referred to by Sir Spencer Wells; it criticized his use of formic acid as a caustic by saying that in Dr. Bell's use of formic acid he (Dr. Bashford) "saw only a reproduction of what was written more than half a century ago of arsenic and zinc sulphate"; and said that by employing atoxyl Dr. Bell had reverted to the centuries-old use of arsenic, his atoxyl—the form which he employed for injections—being merely a solution in water of an organic compound of arsenic. He also wrote:

> The moral of all the familiarity with cancer and all the quackery associated with the exploitation of those sufferers who would fain find an alternative to the knife is simply this. A secret remedy for cancer is possessed by no man nor woman. If it existed, its success would speedily cause all human endeavour to concentrate upon its divulgence, and no quack could retain it for himself alone. That form of treatment which is public property—namely, removal by surgery—has nothing to fear, but, on the contrary, much to gain by comparison with its only competitor, removal by caustics. In this one word, "caustics," can be summed up the direct application of all the suggested substitutes for the knife, from trypsin and radium to potassium bichromate, formic acid, formalin, and arsenic. Thus Dr. Robert Bell. Dr. John Shaw, and others in London, Dr. Fenwick in Accrington, Dr. Hugh Murray in Glasgow, have not taught the medical profession or the public anything new. The removal of the cancer by caustics is not of their invention, but one of the oldest procedures in medicine, the only new thing about this treatment being its application to a new generation of the suffering. Notwithstanding the clear demonstration that cancer is circumscribed and not constitutional in origin, the credulous are still deluded into a belief that this method has the advantage of extracting something which the knife simply cuts off and leaves behind. Such people accept a false pathology and—to give one last quotation from one of the most advertised cancer cures of our time—also a misrepresentation of surgical treatment:
>
> "If one desires to clear a piece of ground of weeds, will one succeed, think you, if he contents himself by merely lopping the heads off the obnoxious plants?"

What was the defence raised in the action? In effect the defendants came to court deliberately to prove that the plaintiff worked on the credulity of the public in order to make money. The truth was that the plaintiff was not a rich man; and in point of fact he attended the poor for little or nothing. As to the British Medical Association, it was important to see what their attitude was with regard to Dr. Bashford's article. In that number of the JOURNAL from which the above extracts were taken, there appeared an anonymous editorial article, headed "Quackery and the Medical Profession," in which the following passage appeared:

> Dr. Bashford's paper on cancer is the most damning exposure of the vilest and most cruel form of quackery that has appeared since Spencer Wells's *Cancer and Cancer Curers*. He has had large opportunities of learning the innumerable forms—some of them particularly insidious—which it assumes; these he fully describes. The time has come for plain speaking on this subject, and Dr. Bashford speaks without reserve or ambiguity.

From this they were entitled to draw the inference that the editor of the paper supported the views put forward by Dr. Bashford.

The plaintiff, examined by Mr. Shearman, said he was 67 years of age, and that he became an M.D. of Glasgow in 1868. Two years later he wrote a thesis on cholera, and was made F.F.P.S. For twenty-one years he had been senior physician at the Hospital for Women (Glasgow), but he resigned in 1896. He studied surgery under Lister, having been one of his dressers. In 1873 he wrote a pamphlet on antiseptics, and in 1873 he wrote on diphtheria. In 1876 he published in a medical journal an account of the secondary treatment for small-pox, which was now in general use, and had tended to decrease mortality. In 1894 he ceased to operate in cancer cases, because he had met with no success. He never succeeded in saving life. He always found that cancer was associated with constipation, which was due to excessive meat eating. He also began to make a special study of the blood in cancer cases, and in 1904 came to the conclusion that cancer was a manifestation of poisoned or diseased blood. He devoted ten years, from 1894 to 1904, to the study of cancer. His treatment might be thus summarized: Clearing the bowels once a day; special diet; administration of thyroid gland as a medicine to supply the deficiency in the body. Fresh air was also of importance. He had used this treatment for eight years with success in cases considered too bad for surgical treatment. Under him there had been recoveries. Over all, he was successful in 10 per cent. of his cases. In 1907 a Mrs. Keilly, who had been discharged as incurable from King's College Hospital, came to him, and he cured her. As to local treatment, he had frequently injected formic acid in solutions of varying strength, and had found it beneficial. He had also successfully applied hot air to the surface of a tumour, the air sometimes being at a temperature of 500°. In 1903 he published a work known as *Cancer in its Causation and Cure without Operation*. That described his treatment at the present time, but there had been a few additions since. He did not object to the removal of a cancer by surgery in addition to his treatment if the blood was in the right condition. He could identify the blood of a cancerous patient.

The Lord Chief Justice: Are you able by your microscope to say what blood is always present in a case of cancer?—Yes.

Continuing, witness said he had made scores of experiments. The experiment of injecting poisonous blood into a tumour had been made. He had been appointed physician in charge of the Cancer Research department at the Battersea Hospital.

By the Lord Chief Justice: The abandonment of operations caused him a loss of income. His books had proved to be a loss, and he sold no medicines. He had never tried to practise on the credulity of the public.

Cross-examined by Mr. Duke: When he had a patient who could pay he asked for fees, as he liked to pay expenses, but he did not need to practise for profit.

Mr. Duke: Do you agree with your counsel's statement, "No one comprehends cancer"?—I do not. I think I comprehend it.

He also said, "The plaintiff has no cure"?—Quite correct. There is no specific cure for cancer. I have always maintained that.

Continuing, he said that it was the most terrible disease in existence, and that the death-rate had gone up 180 per cent. during the last forty years. He regarded it as due to the increased consumption of butchers' meat, neglect of the condition of the bowels, and absence of fresh air.

Mr. Duke: Do you think that sanitary conditions are better now than they were?—Yes, as regards fresh air.

Continuing, witness admitted that he had dealt severely with persons holding rival theories. In a lecture on vaccination he had spoken of serum "quackery." In his work, *Cancer without Operation*, he had used the phrase "quacks with their serum have been enabled to prey upon the country," but had not libelled any one. It was the system he objected to. In various books he had said that surgical operations almost amounted to a crime. He had also said that if he had operated under certain conditions he would not be acting in the interest of the patient. In his work, entitled, *Cancer and its Remedies*, he had said that "the patient's welfare would not seem to be the primary consideration."

Mr. Duke: But that is not a criticism of your own conduct?—It is, if I so acted, because I am a surgeon myself.

Continuing, witness admitted that he had made strong criticisms upon the use of the knife. He began research into the causes of cancer sixteen years ago, but within the last ten or twelve years several centres of investigation had been organized. He read the reports of their proceedings. They had had a special department of cancer at the Middlesex Hospital for ten or twelve years. His teaching was contradictory of all the conclusions at which these bodies had arrived up to the present time. His treatment of cancer had passed out of the experimental stage. It passed out of that stage in 1896, when he cured two cases of cancer of the abdomen. He read a paper to the Gynaecological Society, but did not describe the use of anything except thyroid gland. He maintained that his present treatment was merely a development of the treatment then advocated. He never wrote "popular" works; he may have given a lecture or written a letter to the papers. On June 11th, 1907, he wrote a letter to the *Daily Mail*, describing treatment with trypsin. In that letter he stated that cancer was not only curable, but easily prevented. He adhered to that view now.

Mr. Duke: Is that a position which you have taken with a view to impress the public mind?—Certainly.

Continuing, witness said that the *Daily Mirror* published a statement to the effect that he (witness) said there were 30,000 cases of cancer which were curable. It was his view that cancer was easily preventable, and that there were invariable symptoms which would enable it to be discovered (Mr. Duke read from *Cancer and its Remedies*, p. 126). Witness always found rheumatic pains; a dull complexion; susceptibility to cold. They were associated with cancer; they were not premonitory of any other disease. He had written, "It is a well-known fact—at least, I am convinced upon this point—that cancer is invariably preceded by a certain and undeviating train of phenomena, which should give ample warning of not only the possibility of the disease being in sight and long before its actual presence has become an established fact." He now adhered to that. The treatment advocated was the consumption of living tissue as far as possible in place of dead tissue. He would remove constipation, which would be to a large extent responsible for the three symptoms. He also recommended (in *The Cancer Scourge*) examination of the blood, and that a competent authority should be consulted.

Mr. Duke: Is there any other gentleman besides yourself who adopts your methods?—Yes, one; but examination of the blood is common.

Who else, besides yourself, examines the blood in cancer cases by microphotography?—No one. The microscopic examination is the only one I have found to be any use.

Do you know of any medical man who agreed with you that cancer can be detected by examination of the blood?—No.

Continuing, he said he knew of no method of examining the blood except his own which would show the presence of cancer.

Continuing, witness said that (*inter alia*) raw turnips, carrots, and onions should be taken as food in the form of salads. Unfired bread was also advisable. It was three times as nourishing as cooked bread. In *Cancer and its Remedies* he also recommended sour milk. Dietetic treatment and the clearing of the bowels was the most important. Local treatment was also necessary occasionally. Hot air, for instance, applied to the part tended to attract the blood to the place and promoted absorption.

In a recent pamphlet he had expressed the view that the only successful treatment for the cure of cancer was dietetic. He would recommend the diet above mentioned independently of cancer.

Mr. Duke: How is it a treatment for cancer if you recommend it for all of us? Does it amount to this, that you say the body should be kept healthy?—Yes.

Continuing, witness said cancer was difficult to diagnose, that a benign growth could not always be distinguished from a malignant. He did not agree that they could not be distinguished otherwise than by microscopic examination of the tissue. It was impossible to get the tissue in a normal condition under the microscope, as the tissues were frozen.

Mr. Duke: Do you know that thousands of operations are performed in which cancerous growth is extirpated in the strict sense?—I know there are numbers of cases, but do not know the results.

Take Sir Felix Semon, did he not extirpate cancer successfully in many cases?—I do not know about his cases, but I do know that operations are not generally successful. In my own experience operations did not succeed at all.

You suggest that operation aggravates the disease?—Yes.

Continuing, witness said that every case which he had referred to as cured had been cured by his method. The treatment, which he published in 1896, was the use of extracts of the thyroid gland. The combination of dietetics made the treatment more rapid. In 1903 he adopted cocaine. In 1903 he began the use of hot air. In 1904 he also added salicylate of soda; but that was not now necessary, having regard to the dietetic treatments. He had tried *x* rays locally, and had recommended high-frequency treatment. The only other person who recommended the use of hot air was a Frenchman who practised medicine. In a work known as *Health at its Best* v. *Cancer*, he had written that a 1 per cent. solution of caustic potash, taken subcutaneously, afforded some temporary relief. Last year he had recommended radio-active drinking water. These were all experimental means founded upon sensible facts. The blood of a healthy patient and the blood of a cancerous patient were different under the microscope.

Mr. Duke: Is there a different appearance of the blood according to the length of time the blood has been taken from the body?—Yes.

Continuing, witness said the blood corpuscles were supposed to be like bi-concave lenses, but they behaved like spheres. In a cancer patient there was a heaping up of corpuscles. This condition was illustrated on page 3 of *The Cancer Scourge*. That was the only sign that he was aware of. It amounted to uneven distribution of the blood corpuscles. In advanced cases there was a diminution in the number of cells, as in pernicious anaemia. This theory had not been presented anywhere before it was published in a lecture at the hall of the Society of the Golden Age. It was a discovery of supreme importance in the history of cancer. He had not heard of it being discussed amongst learned men. He denied that the photographs in his books showed symptoms in the blood which could be produced wholly irrespective of cancer. Formic acid, if not properly applied by injection, might produce ulcers. He was of opinion that formic acid had a selective action in that it would act more quickly on a weaker or diseased cell. It only acted locally. Atoxyl was a preparation of arsenic. Arsenic was not cumulative in effect. He had used atoxyl; 54 to 55 grains of atoxyl would be given in the first

fifteen days; in the next he would give 37 grains, that would be about 6 grams of atoxyl in the month. He had never heard of a case in which 0.6 of a grain of arsenic in a month had even produced symptoms of blindness.

The Lord Chief Justice: We have not yet heard of the composition of atoxyl.

Mr. Duke had not finished his cross-examination when the hearing was adjourned.

When the Court resumed on the following day the cross-examination of Dr. Bell was continued.

The thyroid extract did not act specifically on the tissue, but on the blood. The cure of cancer must be by the action of Nature, and not by medicinal or surgical means. There was 24 per cent. of arsenic in the drug "atoxyl," but it was forty times less poisonous than arsenic. The use of arsenic in treating cancer had been abandoned by the common sense of the profession.

At this point Mr. Duke put to the witness certain photomicrographs. The witness said that one of them (1 *a*), by the clotting together of the corpuscles, indicated cancer. The same photograph indicated a highly neurotic condition of the patient.

Mr. Duke: Is there any indication in the blood of a cancerous patient which you do not see in No. 1 *a*?—That is the blood of a patient who has had cancer. It is a highly toxic blood.

As to No. 7 *a* what do you say?—That is blood having two or three points indicating that cancer has been present, but the blood is improving.

As to No. 9 *c*?—That is clearly the blood of a healthy person, but the patient is neurotic.

The Lord Chief Justice: You may leave out that the patient is neurotic. You have said it has nothing to do with cancer

Assume No. 1 *a* to be the blood of Mr. Barnard (who is standing here), do you still say it is the blood of a cancerous patient?—I still say that there is indication of cancer.

As to No. 7 *a*, that was also taken from Dr. Barnard within an hour of No. 1 *a*?—The statements are not incompatible; they all indicate an unhealthy condition of the blood.

Continuing, witness did not say that one part of the blood might be cancerous while another might not.

Mr. Duke next put in a photograph of a drop of blood which he said had been taken from a patient suffering from cancer in the tongue. Witness said that there was nothing in that photograph compatible with a cancerous condition of the blood. As to the photo No. 9 *c*, he would be surprised to hear that this was taken of the blood of a patient who was suffering from inoperable cancer of the stomach.

Down to 1904 he was in general practice in Glasgow. He had been physician at a women's hospital. In 1890 there were three indoor patients at the hospital. He was not exactly the founder of the hospital, but the chief instigator. Up to 1894 he had operated, on an average, eight times a year. Between 1892 and 1894, however, he had not operated ten times. He had no successful operations. As to the alleged success of the surgeons, it generally happened to be something other than cancer. He did not agree that while the tumour was within the breast it was impossible to say whether it was cancerous or not. From 1904 until now he had seen above 100 cases of cancer. Notes of them appeared in his case-books. Many of his patients had been brought to him by his books and letters in the press; others on the recommendation of the persons whom he had cured. He had vouched Dr. James Maugham as one who could support his claims. Dr. Maugham had had good opportunity of studying his methods. He employed atoxyl, but the patient died in each of three cases. The tumours disappeared, but the patients died. He recalled the case of a naval lieutenant which was referred to in his book.

He was referred to in his book (dated 1906) as having been successfully treated. That lieutenant died some months later of sarcoma, but he was then out of his care. He had referred to Dr. Marshall of Cirencester as being able to vouch his claims. He treated a certain patient about the end of 1908. He now heard for the first time that the patient died of cancer in 1909. It was a cure for the time. He did not know Dr. Marshall personally.

Mr. Duke: Take the case of an operation and a recurrence of cancer a few months later, that would not be a cure?—No.

Continuing, he said he could give several cases known to be cured by his method. There was a case of cancer of the breast—one of Dr. Brockman's, Stafford Square; several of Dr. Cowen's, Half Moon Street (Mr. Cowen lived in the same house as the witness); and one of Mr. George Brown, editor of the *Medical Times*.

In the preface to his book, *Cancer and Its Remedies*, he had stated that surgical treatment was invariably followed by the recurrence of the disease in a more aggravated form. He adhered to that. As to an interview with the *Daily Mirror* on August 27th, 1908, he had said that "hundreds worry in secret about some growth which they do not understand, fearing that the doctor will diagnose it as cancer and hoping to put off the evil day. Let them go to their family physician, and if he thinks the matter serious, let him come to me." If that was in print he must have said it.

In re-examination, witness said the naval lieutenant was not under his (witness's) treatment at the time of his death. He went back to the former treatment before his death. As to the consumption of flesh, he found that in Egypt cancer was practically unknown among Arabs who eat no flesh. In India the results of investigation was not so satisfactory. He had been a member of the British Medical Association for forty years. He offered them a paper on cancer in 1909 to be read at Sheffield, but he was eventually only allowed to speak under protest. He tried next year, but the paper was refused on the ground that there would probably be no time to read it. He had attempted to publish his views on the subject. A paper which he had subsequently sent to the editor of the JOURNAL was refused as unsuitable.

The Lord Chief Justice: They were not bound to publish everything. It contained the phrase "a mean advantage."

The Lord Chief Justice: How many cases of undoubted cancer have you cured?—Forty per cent. of my cases.

But the jury will want to know how many?—During the last three years I have treated 70 cases which I believe to be cancer, and can certainly guarantee that 25 have been cured by my treatment.

Have you got your case sheets here? Mr. Duke's witnesses might want to see them.—I do not think it is right that they should; but I do not mind if they do.

The Lord Chief Justice: We are not trying the question, Is this treatment successful? Some independent medical gentleman should be allowed to look at them.

Mr. Duke: Mr. Lazarus-Barlow can do so.

In further answer to the Lord Chief Justice, the witness said that it was essential the blood to be examined microscopically should be examined when fresh. His experience was that it was only conglomeration of the blood corpuscles in the blood that was indicative of cancer. Rheumatism also caused conglomeration, but the presence of a lump or tumour helped to distinguish between the two. He had not exploited this theory for monetary purposes. He was poorer now than when he came to London. He had never known one of his patients suffer from arsenic poison.

Mr. Valentine Knaggs, L.R.C.P.E., M.R.C.S., 41, Welbeck Street, said he was partly a general and partly a consulting practitioner. He had known Bell's treatment for cancer for three years and had used it for his patients. He believed in the dietetic treatment but did not adopt the local treatment. He also used "radium emanation treatment." As to examination of the blood, he was bound to say that it was only in advanced cases that one found granular matter and could make a definite diagnosis. In the early stages the condition of the blood was such that it might indicate cancer, tuberculosis, or Bright's disease. He had two or three hundred photomicrographs. Healthy blood always varied according to the vitality.

Photographs were produced by the witness showing the condition of the blood in various stages of cancer. The periodic weekly examination of the blood was useful to see whether the disease was advancing; but, in order to see whether cancer was present, the body must be examined. He would not like to say whether treatment of the blood would cure cancer, although he was sure it was the right principle. What Dr. Bell described as "conglomeration" might be caused by any disease. He had watched three or four cases treated by Dr. Bell's method. In the first he saw what was, in his judgement, cancer of the tongue gradually disappear. Three others were inoperable, and the patients died; but, in his view, the dietetic treatment greatly relieved the patients' sufferings.

In cross-examination, witness said that the treatment of the case of cancer of the tongue took place last year, and went on for six months. He had had experience of syphilitic cases which produced similar conditions of the tongue, and they yielded to treatment. In the case in question, the symptoms were those of cancer, because they were so serious; but syphilis would, of course, yield to treatment more easily. As to the cases that died, they were all treated for about six months. No remedies were used other than diet and radium. In the first there had been cancer for several years. The diet was partly of uncooked vegetables. He did not believe in uncooked bread, as people would get tired of it. If there was other evidence of cancer in the body, the microscopic evidence was of value. He only attached value to conglomeration because it occurred in every septic disease. He had not distinguished the granular matter in the blood, because it was difficult to get it.

The witness was not re-examined.

The Lord Chief Justice: When you saw this man who was suffering from a growth in the tongue you were not thinking of this case?—No.

Suppose you found a tongue with a growth, would the condition of the blood at that stage help you to say whether it was a cancerous growth or not?—Yes.

Dr. John Pollock Simpson, examined by Mr. Herbert, said that he had known of Dr. Bell's system since last year. He agreed with the dietetic treatment. He had sent patients to Dr. Bell and had kept them under observation while they were there. He had sent a case of cancer of the breast, and had also seen the "tongue" case of which Mr. Knaggs had spoken. Altogether he had seen half a dozen of these cases, but atoxyl had not been used to his knowledge. In one, where there was cancer of the pharynx, which was quite hopeless, there was relief from pain.

In cross-examination, witness said he was in practice at 8, Upper Montagu Street, Montagu Square. He had heard of treatment with formic acid in one case, One of the cases he had seen had died; one (the coachman) had recovered health; the others were still suffering from cancer. In two there was an absence of objective signs, and they were in normal health. In one, which was a tongue case, the patient was a gardener; there had been ulceration of the tongue, but it had nearly passed away when he saw it. In another there was tumour of the breast, and he could not say whether it was cured or whether it was cancer. There was swelling, but no ulceration or inflammation. Constipation was not a symptom of cancer.

He was of opinion that a vegetable diet would ameliorate and might cure.

Mr. Robert Simpson of Plymouth said he read of Dr. Bell's treatment in the *Medical Times*. He sent a patient to Dr. Bell, and he was unable at present to form any opinion of the treatment. Atoxyl was used, and there were no symptoms of arsenic poisoning. The first case was one of cancer of the uterus. For the first month or two he thought there was an improvement in the local conditions. The second case appeared to him to be inoperable, and he placed the possibilities of Dr. Bell's treatment before the patient, and it was begun in August, 1911, and still continued. The appearance of the breast had altered, as it had become dark in colour. The patient had gained in weight. As regards pain she was worse. The atoxyl had been injected nineteen times, but there was no sign of poisoning.

In cross-examination he said that the dose of atoxyl began at 15 minims and went up to 25. It was a 10 per cent. solution. He had seen no reason for abandoning the surgical treatment.

Dr. Thomas Dutton, 35, New Cavendish Street, M.D.Durham, etc., said that he was a colleague of Dr. Purcell for many years, and had often discussed cancer with him. He had come to the conclusion ten years ago that in cases of internal cancer operation was inadvisable. Rightly or wrongly he had also come to the conclusion that the disease was due to a toxin in the blood.

Cross-examined, he saw a patient in Dr. Bell's consulting room last August. An external cancer might be removed, but the patient's health must be seen to first.

Mr. Duke: Cancer produces a toxin in the blood?—Yes.

The Lord Chief Justice: Just think. You said just now, "toxin produces cancer." Which is it?—It is that toxin produces cancer, but he has never traced any toxin in the blood which he associated with cancer. A toxin would be detected by analysis.

Mr. Cowen, practising in Half Moon Street, said he had administered Dr. Bell's treatment for seven years. He had given thousands of injections of atoxyl, but he never found any traces of arsenical poisoning. Early in 1911 he saw a case of cancer of the breast under Dr. Bell's treatment, and there was a marked improvement in her health. Her name was Mrs. Compton. He knew of another case of cancer *en cuirasse*. It was a bad case, both breasts having been removed. She was put on Dr. Bell's diet, and had injections of atoxyl. She died eventually of heart failure. The treatment did not have any effect on the heart, and she really improved very much. She was treated at witness's house. He had grave doubt whether cancer could be removed by the knife. He was of opinion that a toxic condition of the blood was produced by absorption of putrescent animal food. He was certain that cancer itself produced toxic matter which was disseminated in the blood.

In cross-examination he said there was a book by Mr. Ross, published four years ago, termed *Studies in Cell Reproduction in Cancer*. This bore out Dr. Bell's theory.

There was no evidence that the poisonous substances from the bowels had been found in cancerous growth, nor had they been found in blood. They had been found in the intestines of flesh-eating people. If cancer was due to an affection of the blood, excision could not cure cancer. He had grave doubt whether excision had ever effected a cure.

The Lord Chief Justice: How, then, do you explain that some persons who are operated upon get well?—The blood stream may have ceased to be affected.

Continuing, witness said that operation was a useful adjunct in many cases, but was not essential. Cancer was rarer among vegetarian than among flesh-eating races, and was rarer amongst savage than among civilized peoples. Cancer occurred in fishes—in fish which are found at the estuaries of rivers, where there was much offal; but it was also found amongst codfish on the banks of Newfoundland.

Mr. George Brown, who had been for many years a general practitioner and was formerly a member of the General Medical Council, also gave evidence.

Mr. Edward Foster Drake-Brockman, F.R.C.S., L.R.C.P., said he became aware of Dr. Bell's cancer treatment in May, 1910. A patient of his was then suffering from a mammary tumour; it had all the signs of a malignant tumour. He suggested that she should see Dr. Bell and took her there himself. The patient was now well, the tumour having disappeared in about eighteen months. She had fallen into the diet that she will take nothing else. (Laughter.)

Mr. Duke: There was a doubt about its being cancer?—Yes, that is so.

That was the case for the plaintiff.

Mr. Duke, in opening the case for the defendants, said what the jury had to decide was whether, having regard to the state of knowledge, and the claims of Dr. Bell, the criticisms were justified. The basis of his claims was that cancer was a disease of the blood. That disease, according to him, was due to the consumption of flesh food, and the discovery was one of the first importance. If, however, cancer could be extirpated by the knife, the blood theory was exploded. He, however, would adduce professional witnesses of great eminence to prove that the theory of poison passing from the intestine into the blood, and so causing cancer, was mere speculation. Dr. Bell had said there were three symptoms of cancer, which were really symptoms of constipation. It was sufficiently startling merely as stated. As to the process of a diagnosis by photomicrographs, "If I find the three symptoms," said the plaintiff, "I recommend the examination of the blood. Having examined the blood I can say whether it is that of a cancerous patient." He would show, with reference to the photographs produced, that Dr. Bell had been mistaken in both cases. He had actually stated that the blood of Mr. Barnard was indicative of cancer! Moreover, another witness who had been called disagreed with Dr. Bell's theory as to what could be discovered from examination of the blood. He would call witnesses who would prove that a vegetarian diet was no protection against cancer either in the race or the individual. As to formic acid, that when introduced into the body had some action, but no curative action. As to "atoxyl," he would call Dr. Maugham to state his experience. If the use of that was to produce arsenical poisoning, it was a most serious matter.

Sir Felix Semon, K.C.V.O., M.D.Berlin, F.R.C.P., examined by Mr. Gregory, said he had had a large experience of operating for cancer from 1891 to 1909. He had operated in 25 cases of cancer of the larynx. In each of these cases he was certain of the existence of cancer by examination of the tissues. Eighty per cent. of these cases were successful; three patients had died from other causes. He took care to follow the history of his patients after the operation. From his experience he thought cancer was certainly not a primary blood disease, because if that were so none of his cases could be lastingly successful.

Cross-examined by Mr. Shearman, he said that he had never had the blood of his patients examined.

Dr. Ernest Francis Bashford, M.D., said he had been in charge of the Imperial Cancer Research Institute. He had engaged in research under Sir Thomas Fraser, and he had studied in Berlin and in Frankfurt under Dr. Ehrlich. In August, 1902, he was assistant Professor in Edinburgh, and he left there to go to the Cancer Institute. He was not in practice, and never had practised. He was in charge of a laboratory which did not treat people for cancer or admit patients; but he and his colleagues had access to patients in the hospitals. He had attended the Cancer Congress, representing the Government, and had read everything important on the subject of cancer. The object of the appointment which he held was to search for a cure for cancer without the use of the knife. He first studied the plaintiff's books in 1909. He first became acquainted with his name by seeing it in the press. As to the theory that cancer was a disease of the blood, that was not true in the form in which Dr. Bell stated it. It used to be so held, but the last serious discussion was held in 1874, and since 1880 it had not been held. The reasons which disposed of the idea were (1) the enormous improvement in surgery which showed that cancer could be excised, (2) the investigation of the structure of the minute areas in which cancer arose. The "three symptoms" were not distinctive of cancer. He was familiar with the examination of the blood, but nothing had been discovered which supported the theory that cancer resulted from a toxin in the blood stream. As to the proposition that the toxin in the blood was caused by the flesh diet, it was true that there had been theories.

There were 30,000 deaths each year from cancer in Japan and there were many cases among the peoples of India. Cases of cancer also occurred among Arabs, but there were no statistics. There was scientific knowledge as to the use of atoxyl. He was familiar, too, with formic acid. Acetic acid had been used in the treatment of cancer, but had been given up. As to treatment by the thyroid extract, there were records of cases having been so treated. The results were very inconstant, and in 1903 he came to the conclusion that it was valueless. His experience of surgical operation was that surgery was the only method by which a cancerous growth could be cured. He had tested the effect of operation on mice, frogs, and horses. As to the article, he had written it at the request of the Editor of the BRITISH MEDICAL JOURNAL. He had no knowledge of Dr. Bell except through his writings, nor had he any interest in promoting the surgical treatment of cancer. Having read *Cancer and its Remedy* and certain articles by Dr. Bell, he came to the conclusion that his views were erroneous. In forming a judgement upon the book he remembered that it was by a medical man. To the patient who was suffering from cancer the book would be most misleading. To induce persons not to submit to operation was a very bad thing. Delay in such a case might be fatal. He came to the conclusion that the plaintiff's treatment as a substitute for operation would be disastrous. It was upon this ground that his criticism was made. He believed it was made in good faith.

Cross-examined by Mr. Shearman, witness said he knew nothing about Dr. Bell. He intended to make the charge that he was trading upon the credulity of the public with a view that they should become his patients. He had not changed his view that the books were written for personal gain.

Mr. Shearman: Is it your opinion that he wanted to make money out of frightened persons?—Yes and no. I have now formed the opinion that in addition he wrote his books out of vanity or ignorance. I do not think he is an earnest or disinterested person.

Do you think that he has given honest evidence in the witness-box?—Yes.

Continuing, witness said that he accepted the statement that Dr. Bell lost money by adopting his cure. Once the use of anaesthetics became general, operations became more frequent. It was true that in some respects surgery had ousted therapeutics. Their information at the Cancer Institute was largely derived from hospitals, so that the mass of their information came from places where operations were used. Since 1792, or thereabouts, they had been trying to cure cancer at the Middlesex Hospital. He attached the greatest importance to the question of cure without operation. In the last report from the institute he had said, "Prevention and cure are still remote." General good health was a predisposing advantage to

a man who was suffering from cancer. There was nothing in his statistics to show that the consumption of alcohol had any effect upon cancer. There was little evidence that flesh-eating people suffered from cancer more than others. He did not agree that the cancer was caused by an external parasite.

The court then adjourned till the following day.

PENAL SERVITUDE FOR PROCURING ABORTION.

IN the High Court of Justice, Edinburgh, on June 4th, Dr. George Bell Todd, of Glasgow, was charged on an indictment in which there were eighteen charges of procuring abortion and one of murder. He had pleaded not guilty in the Glasgow Sheriff's Court on May 24th, but on this occasion he pleaded guilty to four charges. His counsel, who addressed the court in mitigation, pointed out that in all four charges, to which the accused pleaded guilty, the women were married, and at least three of them had gone to Dr. Todd with their husbands entreating him to perform the operation. Dr. Todd had held a good position in Glasgow, and as the result of this case his name would be removed from the *Medical Register*, and he would no longer be in a position to earn his living by practising his profession. The presiding judge, Lord Guthrie, said that though he had listened with great attention to what had been well put by counsel, he had great difficulty, although he had been anxious to find them, in hearing any circumstances which could properly be called palliative. He could not accept the contention that because the women were married and accompanied by their husbands that was palliation. In ordinary cases of this nature the sentence had been from three to five years, and in one very exceptional case it was only eighteen months. This case was not an ordinary case. He had difficulty in not going beyond a sentence that had been pronounced in the case of a poor woman unskilled and in the case of a man also unskilled. So far as was known, this was the first case, he was glad to say, of a medical man being sentenced for this offence in Scotland. He thought he would be doing his duty in the interests of the State, in the interests of such wretched women as had been concerned in this case, and in the interests of the noble profession which the prisoner had dishonoured, if he imposed a sentence of seven years' penal servitude.

WORKMEN'S COMPENSATION CASES.

Small-pox from Corpse.

AT Folkestone County Court, on May 21st, the judge gave his decision in the case in which the widow of an undertaker's employee claimed compensation for the loss of her husband, who was alleged to have contracted small-pox from a corpse which he assisted to place in a coffin, there being no knowledge that the deceased had died from small-pox.

It was alleged by the defence that there was no proof that the claimant's husband contracted the disease from the corpse. Three men who, it was stated, assisted at the burial developed small-pox.

His Honour found that the applicant was entitled to compensation, the amount to be arrived at in the usual way.

A Claim in respect of Anthrax.

In a case at Durham, on May 21st, it was alleged that deceased had contracted anthrax through coming into contact with the carcasses of animals which had contracted that disease. In July last a horse belonging to the respondent died suddenly, and was found to have died from anthrax. The deceased had cut up the horse for the purpose of feeding some sporting dogs, and it was alleged that he had then contracted the disease.

His Honour said that, having regard to the facts, he was unable to say how or when or under what circumstances the deceased contracted the disease, and therefore, in his opinion, he had not died from an accident which arose out of and in the course of his employment. He therefore gave judgement for the respondents.

Medical News.

THE fifth annual dinner of the Medico-Legal Society is to take place at the Holborn Restaurant next Thursday, June 20th. The chair will be taken by the President of the Society, Sir John Tweedy.

UNDER the will of the late Mrs. Catherine Wilkin, Sidmouth Cottage Hospital, the Royal Hospital for Incurables, Putney, and the Hayes Cottage Hospital, Middlesex, each receives a bequest of £500.

WE commend to the notice of readers a movement for the establishment of a memorial to the late Dr. Charles James Allan, of whose useful and unselfish life some account appeared in our issue of June 1st. It includes two objects: the placing of a fitting memorial over his grave in Lasswade Churchyard, and the provision of an annuity for his widow. Subscriptions may be sent to the honorary treasurer of the fund, Mr. Archibald Gilchrist, Thornhill, Lasswade, N.B.

At a meeting of the Isle of Wight County Council on June 5th, the post of county medical officer and schools medical officer, vacated by Dr. Barford, was filled by Dr. James Pixton Walker, assistant county medical officer for Hampshire. There were said to be several other candidates, but the names of only two were mentioned, these being Dr. Gordon Evans, of Evesham, medical officer to the Pebworth Rural District Council, and Dr. F. G. Bushnell, of Worthing.

THE report of the Nightingale Fund for 1911 shows that after the payment of grants towards the cost of the training school at St. Mary's Infirmary, to the Metropolitan Nursing Association for District Nursing, and to Queen Victoria's Jubilee Institute, the year's working ended with a balance in hand of over £200. The list of those who have received their training at the school now includes 64 matrons, 8 assistant matrons, 5 superintendents of district nursing, 1 sister and 2 nurses in the Indian Nursing Service, 3 sisters and 6 nurses in Queen Alexandra's Army Nursing Service, and 3 sisters and 1 nurse in the Naval Nursing Service.

THE twelfth excursion of the V.E.M. (Voyages d'Etudes Médicales) is fixed this year for the first fortnight of September. It will visit the health resorts of the centre of France and Auvergne. The starting place will be the sanatorium at Lamotte-Beuvron (Orleans line), and among the places visited will be Mont Dore, La Bourboule, Royat, Chatel-Guyon, Vichy, and Bourbon l'Archambaut. The excursion is under the scientific direction of Professor Landouzy, Dean of the Medical Faculty of Paris. The organizer is Dr. Carron de la Carrière, 2, rue Lincoln, Paris (8e). Those who wish to take part in the excursion should notify him of their intention before August 20th. The subscription (230 francs) should be sent to Dr. Jouast, 4, rue Fréderic-Bastial, Paris (8e). A reduction of 50 per cent. on the ordinary fares will be given by all the French railway companies on application.

THE first of the three special cinematographic demonstrations which we recently announced to be in prospect, took place on June 5th before a large gathering of medical men and medical students. With one exception, all the films shown were supplied by Messrs. Pathé Frères, the subjects being the movements of the stomach, the mosquito in relation to campaigns for its destruction, the amoeboid movements of leucocytes, the phenomenon of agglutination, the organisms of spirochaetosis gallinarum, syphilis, Vincent's symbiosis and relapsing fever, and the trypanosomes of Lewis and Bruce. The object of these demonstrations, which have been organized by our contemporary *The Bioscope*, is to show what has already been done in the way of obtaining permanent records of the movements of living organisms as seen under the microscope and ultramicroscope, and to prove how great are the possibilities of cinematography both as an aid in scientific research and as a force in ordinary and special education. On this point Mr. C. H. Heydemann, Ph.D., who introduced the proceedings on the occasion in question, rightly suggested, we think, that the future of motion pictures largely rested on their educational value.

THE spring dinner of the Glasgow University Club, London, took place at the Trocadero Restaurant on June 6th. Mr. William Lorimer, LL.D., Chancellor's Assessor on the University Court, was in the chair, and the gathering included many representatives of medicine. In proposing the toast of the University and the Club, Mr. Lorimer said that as a man engaged in industrial and commercial work for many years past, he would at once declare himself as having no sympathy with those who would abolish or diminish classical education. Such limited training therein as he had himself received had left him with an abiding conviction that classical training provided the finest instrument for expression of thought the world had ever known. In regard to the future of the university, the problem of the application of scientific knowledge to construction work had been fairly well met and solved by it, but there still remained the problem of how best to distribute the results of manufacturing enterprise. In commerce there could be no peace, the struggle was unending; and in this warfare the university could be helpful both to engineers, manufacturers, and merchants. He was in favour, therefore, of the establishment of a faculty of commerce, a project which was already being considered by a special committee. If and when the qualifications necessary for a commercial degree came to be considered, he would urge as indispensable the inclusion of mental philosophy in the curriculum. A great merchant should not only have wide knowledge of the world, but a capacity for lucid thinking and succinct statements, and nothing could better assist him in these directions than a training in the subject in question. The toast to the guests was acknowledged by Professor G. C. Ramsay. The evening ended after the chairman's health had been drunk, on the proposal of Sir Donald MacAlister.

Letters, Notes, and Answers.

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CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

CORRESPONDENTS not answered are requested to look at the Notices to Correspondents of the following week.

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2634, Gerrard, MEDICAL SECRETARY.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH MEDICAL JOURNAL *are devoted will be found under their respective headings.*

QUERIES.

BOOTERSTOWN asks for suggestions for a line of treatment for a gentleman, over 60 years of age, who for five or six years has been tormented with a metallic taste; he has had facial paralysis some years ago, also an attack of otitis media, and is now more or less of an invalid from mitral regurgition; all ordinary treatment has been of no avail.

TREATMENT OF TRACHOMA BY CO_2 SNOW.

T. W. asks: In the treatment of trachoma by carbon dioxide snow is it safe to apply a pencil of the snow in two or three places to the everted lid, thus freezing the lid in sections; or is it necessary to make a special mould of the snow to cover the whole everted surface, by this means freezing the lid by one application only? If the latter method is indicated, where can these special moulds be obtained?

ANSWERS.

£ S. D. is anxious to know what is contained in an injection for chronic urethritis, which is known on the Continent as "Lap," and much used, he believes, in military practice.

*** Inquiries made among those familiar with French practice of various kinds, including a French military surgeon, would appear to indicate that, so far as France is concerned, there is no remedy known by this title.

LETTERS, NOTES, ETC.

"DUBLIN UNIVERSITY MEDICAL COLLEGE."

IN the account of Dublin University Medical College, line 14 from the bottom of the left-hand column of p. 1396, there is an obvious misprint; "1911" should be "1711."

INUNCTION TREATMENT AND THE PREVENTION OF SCARLET FEVER.

M.D., M.R.C.P.E., D.P.H. writes: Some eighteen months ago I saw a child who presented a febrile sore throat and a history of a transitory rash. The mother, who had noticed the rash, thought it was one to which the child was accustomed; she imagined she had often seen such a rash on the child's skin before. The soreness of the throat was slight and not distinctive, and under these equivocal circumstances I and the mother decided to try Dr. Milne's method of inunction. This was done by the mother, an honest, capable, untaught (in this respect) woman. Other children started with scarlet fever, the father took it, the mother took it, three weeks after the first child commenced. I concluded that the first child had infected the others. The question was, when—before or after the inunction method? I was in doubt. No one else was. It appeared that the inunction had failed. If any one wishes to try this method, I would say to him: Be sure of your nurse, be sure of your disinfection, and even then tremble for the success of the process.

INTESTINAL OBSTRUCTION.

DR. J. REID (London) writes: Among the group of cases of obstruction published in 1912 in *St. Bartholomew's Hospital Reports*, I find no record of suppression of urine; hence the case to follow may be of interest. The attendance on a boy of about 2½ years extended from the 3rd to the 10th. He had bronchopneumonia, chiefly on the right side, and had had slight diarrhoea. On the 4th I gave calomel for constipation. On the 5th rigid abdominal wall, no motion, vomiting, no urine voided for some hours. The bladder was empty, and pulse was not strong. I gave enemata of belladonna and ether, and failed to find definite bulging with finger in rectum. Nothing came after the enema except the water (warm). With raised buttocks I attempted to manipulate the caecal region by the finger in the rectum. Operative treatment was refused. After thirty-six hours of suppression of urine (total) a little urine was secreted, the evidences of pain vanished, and, after being treated for bronchitis and constipation, he was discharged well on the 10th. I may say that on the 4th there was trouble with the water, but with hot water and some manipulation of the bladder it was passed. There was very little in the bladder. On the 5th I felt the empty bladder per rectum

A GREAT EXPERIMENT.

DR. A. W. GILCHRIST (Nice) writes: I can understand that the Bishop of North Queensland, although his attitude is ethically illogical, should consider "a great experiment necessary," and that he should be "prepared to carry it out" and that he should be confident of a favourable result (BRITISH MEDICAL JOURNAL, June 1st, 1912, p. 1253). It is more difficult to understand why you advocate the same project and cherish the same hope of success. It seems to me that Sir Richard Havelock Charles and the several other authorities who expressed the conviction that the tropics in general were unsuitable for *permanent* [my italics] habitation by white people are right, and that those who oppose this view, including Professor Anderson Stewart, Sir Charles Bruce, and the BRITISH MEDICAL JOURNAL, are wrong.

The facts already possessed by general pathology should be sufficient to discourage any such experiment as that suggested; I should add, perhaps, general pathology as it is understood, especially in France. I refer to a belief in diatheses, to the significance of constitutional tendencies, and to the superior importance of the "soil" over the germ, or most germs, in the genesis of disease.

The Bishop of North Queensland is inspired by a belief in the metaphysical equality of the white man, the BRITISH MEDICAL JOURNAL in his physical or constitutional identity of aptitude. Both imply, in more definite language, that the white man is plastic enough to be converted into a coloured man. This opinion is probably both theoretically and practically erroneous. Wiedersheim (*The Structure of Man*, p. 171) tells us that the average weight of the liver in the white races is 1,461 grams, in the black races 1,266—a difference of over half a pound; that the cranial capacity of the white exceeds the average of the various coloured races by from 250 to over 500 c.cm.; and that with greater volume in the frontal races the brain presents corresponding morphological and presumably histological differences. Why are these facts, as striking and suggestive as the colour and functions of the skin, not more generally known and appreciated? The presumed incapacity of the Caucasian to thrive in tropical climates is thus based upon biological factors. The nutritive processes, again, in the white man can be said to be different from the dark races. The northern races with big livers have great assimilative powers characterized by increased acidity (real or virtual) of the body fluids; the tropical races with bile-forming rather than glycogen-forming livers have higher disassimilative aptitude with decreased acidity of the body fluids.

One of the earliest effects on the white races (especially, I should say, on Britons) of residence in hot climates is a modification in this character of the liquid constituents of the organism; it is probably accentuated in the children. Eventually there is evolved the tendency to organic hypoacidity, a favourable soil (see Bouchard, *Maladies par ralentissement de la nutrition*—chiefly tuberculosis and probably cancer, Gautrelet) for the development of most of the degenerative diseases.

The leading article I have been quoting states finally: "It must not be forgotten that in a community it is, as a rule, the lowest classes who act as foci in the spread of epidemic diseases. It seems a pity that Australia should encourage in any measure the introduction and spread of diseases" (by aliens). "This would add enormously to the difficulties of the situation." Here again I must venture to differ. The aliens in question are less likely to suffer from epidemic diseases than a white population, for these coloured communities will be indentured, we hear; and we are also reminded that the success achieved in tropical hygiene and sanitation, already conspicuously great, will undergo marked advances in the future. The means of controlling tropical diseases under such conditions will obviously be greater in the case of indentured labour than in the case of whites, especially of whites claiming such freedom from sociological restraints as the average working classes of Australia.

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